The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. No. 12-A TULSA, OKLAHOMA, AUGUST 14, 1924

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Crude Production Again Shows Gain

Average daily production in United States week ended Aug. 9, 2,038,751 bbls. Gain over previous week, 18,880 bbls.

Oklahoma is Chiefly Responsible With Further Increase Probable. Colorado Well Has Good Showing

By Andrew M. Rowley

Highest daily average estimated production this year, week ended Aug. 9, 2,038,751 bbls. Lowest, January 12, 1,871,143 bbls.

Production of crude petroleum recorded another substantial increase during the past week, again reaching a new peak for this year. In addition, the output of Oklahoma early this week was estimated at more than 20,000 barrels a day higher than the average for last week, indicating another gain for the entire country may be expected for the current week's production.

Outlined briefly, the situation affecting the oil business today is about as follows: There is a quantity of approximately 390,000,000 barrels of crude petroleum in storage. There is at least 1,500,000,000 gallons of gasoline in storage. Production of crude oil plus imports is greater than consumption plus exports. That means more oil to be added to storage. There is little likelihood at this time that the amount of crude and refined oils in storage will be reduced to any material extent during this year. That means the petroleum industry will enter another year with large quantities of oil in storage which must be disposed of before any full measure of prosperity will be experienced.

The recently discovered deep sand horizon in the Tonkawa Field in Oklahoma is responsible at this time for much of the gain in production. Nine wells producing from that sand were aggregating around 35,000 barrels a day last week, while additional wells were near this sand and are expected to add to this production. In addition to these wells nearing completion and which probably will be completed this week, there are about 35 other wells drilling to this sand.

Another great contributing cause to the increase in production in Oklahoma is the activity in the Hominy district of Osage County. What that area is capable of may be judged from a completion there last week by the Marland Refining Co. Its No. 8, in Section 20-23-8, came in about the middle of the week flowing 600 barrels an hour. The well was choked down and permitted to flow about 285 barrels an hour.

Important extensions to the Cromwell Field in Oklahoma resulted in the staking of numerous locations there. In addition to these locations, there are about 70 wells drilling in the field. If the wells in the Hominy district were permitted to flow full capacity, the production of Oklahoma at this time would average much more than ever before in its history. The peak of production, as estimated in the weekly reports, was reached early last year with an output slightly over 527,000 barrels a day. The production of the State on Monday of this week was more than that.

Little change is noted in the production of other major fields in the country. The output remains fairly stationary with slight increases or decreases from week to week. California is holding up and there is only a small change in Luling, which averaged 44,661 barrels daily last week. The well of the Transcontinental and The Texas Co. at Craig, Colo., averaged 2,240 barrels a day last week, with a flow of about 12 per cent water and basic sediment. The Powell Field is maintaining an average slightly above 80,000 barrels, averaging 80,700 barrels daily last week.

Considerable activity is being displayed in the Torrance Field in California. During the past week 12 wells were put on production although the total amount of new production was only 2,595 barrels. However, 15 or 16 additional rigs were erected and finishing touches were put on 8 or 10 drilling wells preparatory to completing them.

An important development in the Colorado territory was the showing made by the Whittaker well in the Fort Collins Field in northeastern Colorado. In a short test this well flowed by heads at the rate of from 700 to 1,000 barrels through the Bradenhead between the 6 and 8-inch casing, making it look especially good to operators. The Beaver Creek well of the Transcontinental Oil Co. in the Moffat Field, near Craig, was reported to have struck water in the Dakota sand at 3,278 feet.

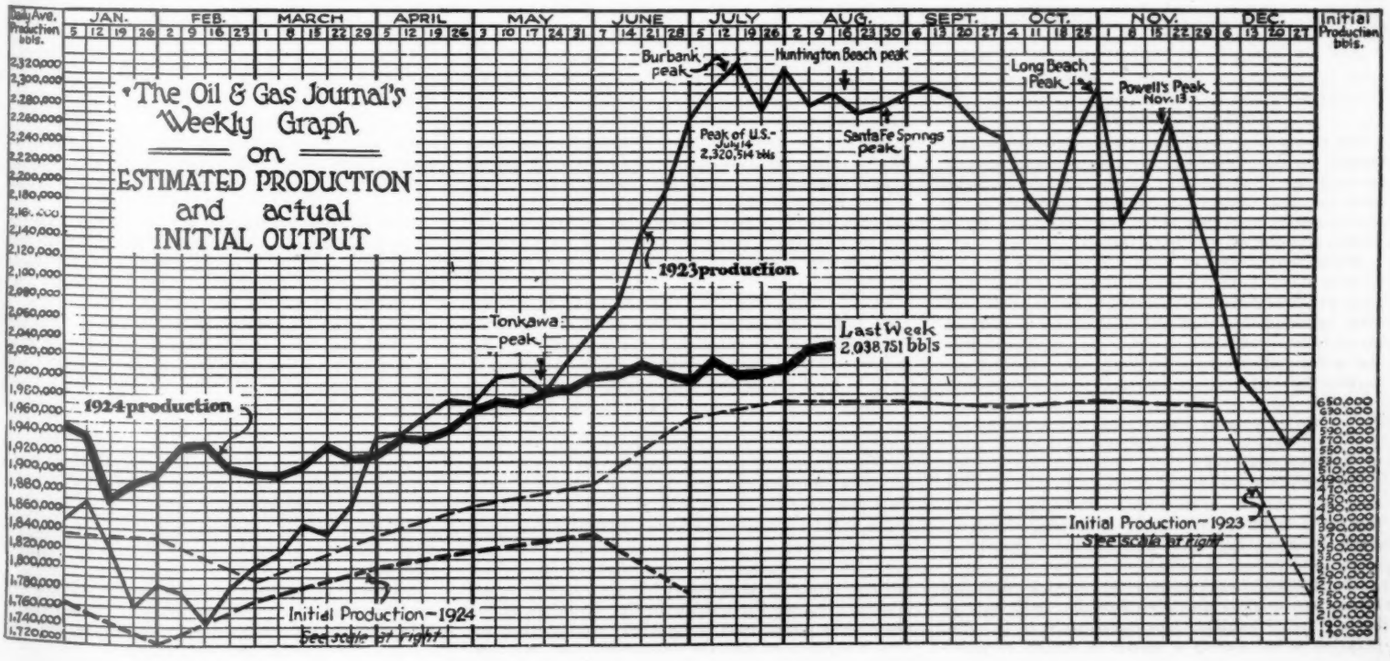
The production situation at this time holds little hope of showing any considerable drop from present figures. Oklahoma alone will serve to offset what losses may be recorded in other areas. Efforts at curtailing production have met with practically no success and little along this line can be expected. But it is realized generally by those who have studied the situation carefully from all angles the great production of crude and the equally big production of gasoline, taken in connection with the large quantities of these products in storage, will serve to hold prices at a comparatively low level for some time. Crude and gasoline stocks must be reduced before price increases can be expected.

PRODUCTION IN THE UNITED STATES

Estimated daily average production in the oil fields of the United States for the week ended Aug. 9 and a comparison with previous week, follows:

	Aug. 9	Aug. 2
Oklahoma—Northern Fields—		
Tonkawa	48,195	38,092
Burbank	77,800	80,300
Other Osage Fields	54,115	51,500
Cushing and Shamrock	23,750	23,800
Bristow and Eastern Bristow	49,375	50,050
Cromwell	62,100	54,860
Stroud	17,400	19,160
Northern Miscellaneous	104,050	103,995
Southern Fields	71,200	71,015
Total Oklahoma	507,985	492,772
North Louisiana	55,890	56,645
Arkansas—		
El Dorado and Calion	12,685	12,840
Smackover Light	35,410	37,620
Smackover Heavy	93,200	94,250
Stephens and Nevada	3,620	3,660
Total Arkansas	144,915	148,370
North Central Texas	123,385	122,615
East Central Texas (Mexia, Currie, Corsicana, Powell)	128,920	131,556
Kansas	84,450	83,750
Total Mid-Continent Area	1,045,545	1,035,708
Gulf Coast	86,435	84,400
Southwest Texas	52,491	52,163
Eastern	107,100	106,950
Rocky Mountain Area	125,180	126,590
California—		
Santa Fe Springs	56,000	56,000
Long Beach	154,000	155,000
Huntington Beach	43,000	43,000
Torrance	56,000	56,000
Dominguez	22,000	22,000
Remainder of State	291,000	293,000
Total California	622,000	625,000
Total United States	2,038,751	2,030,811

INCREASE, 7,940 BARRELS


The Oil & Gas Journal's Weekly Graph on ESTIMATED PRODUCTION and actual INITIAL OUTPUT
Daily Ave. Production bbls.
Initial Production bbls.
JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
Burbank peak
Huntington Beach peak
Long Beach Peak
Powell's Peak Nov. 13
Peak of U.S. July 14 2,320,514 bbls
Santa Fe Springs peak
1923 production
Tonkawa peak
Last Week 2,038,751 bbls
1924 production
Initial Production—1924 See scale at right
Initial Production—1923 See scale at right

Concerning Government and Gasoline

Political Strategy of Legislators Who Tax Gasoline and Agitate for "Cheap Gasoline" to Make Oil Industry Absorb Tax

By Charles E. Bowles

When 100,000,000 people are gathered together under one national Government, 48 State Governments and thousands of county, township and municipal Governments—and when each of these five distinct forms of Government spends money—the aggregate amount necessary to maintain our entire Governmental machinery, is bound to be enormous.

We are now raising slightly over $4,000,000,000 a year to pay the running expenses of our national Government, with a little additional to slowly wipe out our public debt that June 30, 1924 was slightly over $21,000,000,000.

It is now costing our States, counties, townships and municipalities about $4,000,000,000 a year for running expenses—and their total debt is $8,000,000,000.

Therefore our entire Governmental machinery: national, State, county, township and municipal, is costing about $8,000,000,000 a year—and our entire debt; national, State, county, township and municipal, is about $29,000,000,000.

On the other hand the "physical assets" of the United States is about $290,000,000,000—so Uncle Sam is solvent, by a tremendous majority.

Amazing Industrial Growth

The World War brought a flood of new ideas to the American people—and probably the outstanding one, from a material standpoint, was a startling realization of the tremendous size to which our industries had grown in the half-century of peace and prosperity that followed the Civil War. All of our industries had grown amazingly—and when, in 1912, our census department estimated our wealth at $187,000,000,000 the figures appealed to our national pride—but not until we entered the World War, subscribed over $21,000,000,000 of Liberty Bonds and began mobilizing our industries, did we get our first real, concrete proof of our gigantic wealth and almost limitless resources.

At the close of the World War the United States treasury and the bankers of the country knew only too well the inflated condition of our finances and our industries—and promptly set about the work of "deflation," painful as it was, and while today our people, our businesses and our industries are practically all deflated, few of our legislative bodies seem to have gotten the idea of deflation, either in the raising or the spending of public money.

Taxation Slowing Industry

Our staggering wealth and gigantic resources have opened the door to programs of taxation on a scale so vast that it is rapidly becoming an industrial menace. The essence of industry is "profit"—and if business is to thrive, taxes must come out of its profits, not out of its capital assets.

When the burden of taxation begins noticeably to slow down industry it would seem that it were time to slow down on taxation—and expenditures. That taxation is one of the factors that is slowing down industry is obvious—and that the burden on the automobile and its fuels is being heaped unnecessarily and dangerously high is also obvious.

The oil industry is today between two millstones: constantly increasing State taxes on gasoline and State and national "investigations" of why the price of gasoline is so high.

Certainly the legislative body that taxes gasoline and then launches an investigation to find out why the price is high, can not be reasoning along the same lines as the men who produced, pipelined, stored and refined the crude oil.

The United States is wealthy enough—and our States are wealthy enough—that they will not "go broke" from taxation, however unfair it is. But taxation is not merely a matter of ability to pay—it is a matter of economic and industrial fairness. The question is not whether the United States or the State can pay the tax, but how much damage Congress and the State Governments are doing to our people, our businesses and our industries through excessive taxation and extravagant expenditures.

TEN PER CENT TAX ON PETROLEUM PRODUCTS

The aggregate sales, at retail prices, of all of the products made from crude oil probably do not exceed $2,000,000,000 a year today.

If our legislators can levy taxes on gasoline alone totaling $200,000,000 a year, or 10 per cent of the retail price of all of the products made from crude oil, and can throw these taxes back on the oil industry then the industry will face a serious situation.

It is not probable that any candidates for the legislature made their campaign for election on the promise that they would levy taxes on gasoline to take money out of the pockets of motorists.

Haven't they rather placed themselves in position where the only course left open is to agitate "cheap gasoline" and throw the burden back on the oil men to be absorbed by them out of their profits—if they have any?

The sooner the oil industry recognizes the strategic significance of a legislature's raising millions from motorists and then keeping the motorists from paying those millions by keeping the price of gasoline from going up, to say nothing of trying to put it down, the sooner the industry will recognize the tremendous strength of the legislature's position when it goes out on a program of bringing about cheaper gasoline at the same time.

Burden of Taxation

Referring to Table 1 you will note that in 1914 the total income for highways for the entire United States was $240,000,000. Of this amount $12,382,000, or about 5 per cent, came from motor vehicle fees and licenses. There were no gasoline taxes at that time.

In 1921 the highway income was over $1.000.000,000, the fees and licenses almost $119,000,000 and the gasoline taxes $3,685,000. In other words motor vehicles furnished over 10 per cent of the total highway income.

In 1922 the fees and licenses increased to $152,000 000 while the gasoline taxes increased to about $12,000,000—a total of $164,000,000, or over 14 per cent of the total highway income.

In 1923 the fees and licenses were $189,000.000 and the gasoline taxes about $37,000,000—a total of over $225,000,000, or over 19 per cent of the total highway income.

Conservative estimates indicate that motor vehicle fees and licenses will provide about $200 000,000 in 1924 while gasoline taxes will exceed $70,000,000. The combined revenue, $270,000.000, will be 22½ per cent of the total highway income.

Disregarding the figures for 1914, as we had no national highway building program at that time, and accepting an annual expenditure, for the next several years, of about $1,000,000,000 a year for highway purposes, it will be only a matter of a very few years until the fees, licenses and gasoline taxes will be contributing about $350,000,000 a year, or one-third of the total highway income.

In the more than a century that we have been raising money by taxation it has been the universal practice to pass the burden to the shoulders of the supposedly prosperous industries. And during the last few years oil and the automobile, our two newest big industries, have had a constantly increasing burden of taxation placed on their shoulders.

Of all of the items in the range of taxation the car and its fuel are the most direct, get-at-able and unevadable. And with our older industries looking for newer shoulders to bear a part of their tax burdens, and with our taxes slowly but surely increasing, the path of least resistance has been to tax the car and its fuel.

Table 2 shows how rapidly this idea of taxing gasoline has spread. Oregon was the pioneer, with a 2-cent tax that went into effect February 25, 1919. It is interesting to note that the three other States that passed gasoline taxes that year were Western States. In 1920 only one State, Kentucky passed a gasoline tax law, but in 1921 11 States enacted laws taxing gasoline, with three more States following in 1922.

The flood of gasoline tax legislation came however in 1923, along with the flood of oil. Sixteen States passed laws taxing gasoline—and 11 States increased the taxes already in force.

January 1, 1924, saw increases of a cent a gallon in five States while Oklahoma, early in March increased her tax from 1 cent a gallon to 2½ cents.

Rising Tide of Taxes

Oregon, the first State to tax gasoline (February 25, 1919) increased the tax in 1923. Colorado enacted her first law in 1919, and increased the tax in 1923. Of the 11 States that passed laws in 1921, eight have increased their taxes once, and two of them twice. Of the three States enacting laws in 1922, two have increased their taxes.

Arkansas passed her first gasoline tax law of a cent a gallon in 1921—she increased it to 3 cents in 1923, and on the first of last January to 4 cents a gallon.

By a "rule-of-thumb" calculation the approximate revenue to be derived from a gasoline tax can be roughly estimated by multiplying the number of cars and trucks in the State by 5 and that product by the State tax in cents. For example—California had 1,100,000 cars last January and a tax of 2 cents a gallon; 1,100.000 times 5 times 2 gives an estimated revenue of $11,000,000 for 1924.

And when the tax committee of a State legislature sees that it can increase its revenue by hundreds of thousands of dollars a year by simply increasing the gasoline tax a cent a gallon, the opportunity is almost irresistible. Anyway the extra cent—or more—has been going on in almost all of the States that have passed gasoline tax laws.

At the present time 35 States and the District of Columbia have gasoline tax laws in force—and 13 States have not as yet enacted laws. But the figures 35 and 13 by no means tells the story as will be seen by referring to Table 3.

West of the Mississippi 17 States tax gasoline, while five States have no tax. In the 17 States that tax gasoline there were 3,532,000 cars and trucks the first of last January. In the five States that have no tax there were 2,173,000 cars and trucks.

East of the Mississippi 18 States and the District of Columbia tax gasoline, while eight States have no tax. In the 18 States that tax gasoline there were 4,100,000 cars and trucks—and in the eight States without a tax there were 5,417,000 cars and trucks.

In other words, in the 35 States and the District of Columbia that tax gasoline there were 7,632.000 cars and trucks—and in the 13 States without taxes there were 7,590,000,000 cars and trucks, which means that almost exactly one-half of our cars and trucks are registered in States that have no gasoline taxes.

It is estimated that in 1924 the 3,532,000 motor vehicles west of the Mississippi will pay an aggregate of about $31.500.000 in gasoline taxes, and that

(Continued on Page 92)

Rise of California Petroleum Industry

Great Strides Made in Technical Methods of Handling Immense Production, in Transportation and Storage

By Gustav Egloff and A. R. Chandler*

California is one of the most amazing oil producing and refining sections of the world. It is producing and refining more oil than the combined efforts of Algeria, Russia, Persia, Peru, Venezuela, Dutch East Indies, Rumania, Sarawak, Argentine, Poland, Trinidad, Colombia, France, Germany, India, Japan, Formosa, Egypt, Czecho-Slovakia, Canada and Italy.

California is producing and refining more crude oil than the prolific fields of Mexico, and, surprising as it may seem, shipped over 4,000,000 barrels of crude oil into Mexico during the year 1923. Although the three wonder fields of Los Angeles Basin, i.e., Santa Fe Springs, Long Beach and Huntington Beach—are declining in production, yet new fields are being brought in, thus far maintaining a production substantially over 600,000 barrels per day. Despite the drastic declines in the three major fields, it is very doubtful whether California's production will decline to less than 450,000 barrels per day. New fields are now in view, which will bring the settled production of this State over the 600,000 barrels, or even the 700,000 barrels mark within a few years.

World Crude Production

The following tabulation gives the estimated production in the various countries of the world for the year 1923, which totals 276,754,000 barrels; whereas California produced 263,728,895 barrels:

Country—	Barrels Produced During Year 1923
Algeria	9,000
Italy	32,000
Czecho-Slovakia	100,000
Eucuador	150,000
Canada	175,000
Germany	354,000
Colombia	426,000
France	503,000
Egypt	1,137,000
Japan-Formosa	1,695,000
Trinidad	3,087,000
Argentine	3,250,000
Venezuela	3,800,000
Sarawak	3,887,000
Poland	5,000,000
Peru	7,375,000
India	7,757,000
Rumania	10,850,000
Dutch East Indies	15,000,000
Persia	25,000,000
Russia	38,167,000
Mexico	150,000,000
World production outside of U. S.	276,754,000
California Production	263,729,000
For the entire United States	735,000,000
World Production of Petroleum	1,011,754,000

Rapid Rise in Output

In the year 1876, California produced approximately 12,000 barrels of crude oil, having a market value of $2.50 per barrel, or $30,000. In 1900, approximately 4,324,484 barrels were produced, having a market value of $4,000,000. And in 1910, the production was 73,000,000 barrels, having a market value of $35,750,000. While during the year 1923, there were produced 263,729,000 barrels, having a market value of over $200,000,000. This indicates the tremenduous increase in production of crude oil and market value during a period of 47 years in California.

That the California oil industry is a potent factor in world industry is indicated by the fact that large quantities of oil were shipped to the Far East and Europe during 1923. Also during the year 1923 approximately 64,000,000 barrels of light crude and refined oil were shipped to the Atlantic Coast via the Panama Canal.

Technical triumphs have been many in the oil industry of California. They have been instrumental in placing California as the leading oil center of the world. The achievements along geologic lines, drilling of wells, pipe lines, storage of crude, oil, refining of oil, have been signal.

Oil Field Discovery

The wildcatter is an out and out gambler who works on practical experience and "hunches" as to how the land sizes up as a possible oil field. He selects remote places and all hail to him for his past, present and future work and the oil industry is beholden to him largely for its present status. But he is slowly and surely giving away to the experienced geologist who works methodically along scientific lines. The geologist studies carefully not only the geological formation, surface conditions but also the gas content of surface waters, sub-strata water conditions and follows microscopically the core of samples of the well, emphasizing the necessity of thorough study of the strata of the earth passed through by the drill. According to the executive of one of the largest oil companies, the geologist has spotted 85 per cent of the successful wells for his company, whereas the wildcatter has located but 5 per cent of the successful oil wells spotted by him. The cry now is "scientific wildcatting" and such oil fields as Santa Fe springs have been accurately predicted by the geologist and during the month of August, 1923, this oil field alone averaged 322,522 barrels of oil per day.

Drilling of Oil Wells

The tremendously increased production of crude oil in California has been due to the drilling of wells to deeper oil sands, particularly in the Santa Fe Springs, Long Beach and Huntington Beach oil fields. The discovery of greater oil production at deeper depths has profoundly influenced oil field development in other parts of the United States. The average oil well depth for the Long Beach Field is 4,000 feet; for the Santa Fe Springs 4,500 feet and the Huntington Beach Field at 5,000 feet. To drill to these depths the time required was approximately 120 days to complete a well from the time it was spudded in. This high speed operation of completing a well was due to the rotary drill, in the relatively easy drilling formation and to chemical compounds in quick setting cements to shut off the edge water of the well.

One very large company of California is doing a splendid pioneer work in deep oil well drilling. In experimentation the company lost over $1,000,000 in five wells which upon their completion were found to be dry holes or "dusters." The wells drilled by this company were the following:

Lomita No. 2	Dry at 6,207 ft.
Elk Hills	Dry at 6,240 ft.
Kettleman Hills	Dry at 6,602 ft.
Torrance No. 1	Dry at 6,680 ft.
Santa Fe Springs Brown Rigg Keller No. 2	Dry at 7,212 ft.

Drilled 7,212 Feet by Rotary

The 7,212-foot well at Santa Fe Springs was a great mechanical and technical achievement. It was the deepest rotary drilled well, in the record time of 384 days or at the rate of 22.3 foot per day of actual drilling. Sixty-one (61) days were required in "fishing," pulling casing and delays due to cementing edge water. The drill tools used during this test weighed approximately 55 tons. A regulation rotary drill was used with standard rig and two strings of casing of 11-inch and 8¼-inch diameter, respectively.

The log of this almost 1½-mile depth well, although a dry hole, is interesting in its disclosed information which will be of importance in other deep test well drilling. At 4,903-4,904 feet in the hole and also at 5,970-5,972 feet a light showing of oil occurred, but not commercial quantities. Between the depths of 6,409 and 7,103 feet a sea shell formation occurred and then a sandy brown shale at 7,212 feet. Approximately 150 feet from the bottom of the well during the drilling, the drill pipe stuck in the hole and to loosen the drill pipe, clear water was circulated instead of a mud fluid for a period of 48 hours and this method of loosening was not successful, then over a period of 14 hours, oil was used as a circulating medium when the drill pipe loosened the well started flowing water at a temperature of 180 degrees F. as it left the well at the rate of 3,500 barrels per day. The flow of this 180 degrees water was stopped by "mudding" up the hole. As oil was not found in commercial quantities the hole was abandoned after leaving the casing in the hole. A wooden plug on top of which cement was poured was put in the well at a depth of 2,980 feet. Thus ended the loss of approximately a quarter of a million dollars and a year's work in the endeavor to find oil at a depth below 7,000 feet in a particular part of the Santa Fe Springs oil field.

It is almost certain that within 10 (ten) years' time that much of our crude oil will come from the depths lower than 6,000 feet and that 10,000 feet will be the drilling depth to which exploration will be directed for new oil strata.

At the end of April, 1924, there were 10,826 producing oil wells in California having a daily total production of 643,328 barrels or an average of 60 barrels of oil per well per day. This is approximately 85 per cent higher daily production than the average of all the oil wells of the United States for the year 1923 when 300,000 wells averaged 7 barrels of crude oil per well per day.

Crude Oil Transportation

The transportation of oil in California has been a real problem due to the large amount of heavy viscous oil being produced in different parts of the State. This oil of high viscosity has to be pumped over mountains and valleys where climatic conditions shift widely during the year. To overcome this difficulty of moving the crude oil through pipe lines, the following methods are being used::

1. Heat the oil during its flow through the pipe lines.
2. Insulating the pipe lines in exposed places.
3. Dilute or thin the heavy crude oil (such as Casmalia) with gas oil or other light oil.
4. Pumping stations close together in point of miles average approximately 12 which is low when compared to Mid-Continent and eastern pump stations.

During the year 1923, pipe line construction was completed to transport approximately 665,000 barrels per day. Fortunately the pipe lines required were not long in distance due to the fact that the three big producing oil fields were less than 30 miles from the Los Angeles Harbor. The peak production of the three wonder pools of Long Beach, Santa Fe Springs and Huntington Beach occurred in August, when the stupendous amount of oil production from these fields reached 650,000 barrels per day.

To build the pipe lines necessary to keep up with the increasing production of California during 1923, was a technical achievement of more than passing moment. An important development in the laying of pipe line, and relatively simple was the putting in of 40-foot lengths of pipe line which were welded together instead of the usual 30-foot lengths of pipe screwed together. The time of laying the pipe line was cut down materially and not alone the construction costs were decreased but also the maintenance and leakage loss.

Concrete and Steel Storage

To keep up with the ever increasing oil production of California it was necessary to build storage tanks with a feverish haste unparalleled in the history of the oil industry. This was done so as to

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*Read at the meeting of the American Institute of Chemical Engineers, Denver, Colo.

Fuel Oil Market Strong in Oklahoma

Heavy Buying Aids Natural Gasoline Market. Bureau of Mines Reports Indicate Need of Reduction in Refinery Runs

By C. O. Willson

Undisturbed by either a crude or tank wagon reduction affecting the fields or consuming area in which it is particularly interested, the Group 3 (Oklahoma) refined market passed through a comparatively quiet week. Straight run gasolines are still termed "weak," although the general price level for immediate shipment is approximately the same as last week. Kerosenes continued strong with fuel oils displaying enough strength so that prices on the principal grades are higher than a week ago. Natural gasolines, due largely to some heavy buying by one concern, continued firm in the absorption grades with casinghead ½-cent higher with little available for immediate shipment.

The market on U. S. Motor (New Navy) gasoline had its ups and downs during the week, but at this writing the general prices for immediate shipment are 7½ cents to 7¾ cents, representing only ⅛-cent decline under last week. For a couple of days last week, there were indications of strength based on a good demand, coupled with the encouraging report of the Western Petroleum Refiners Association, which showed a reduction of over 7,000,000 gallons in gasoline stocks during the previous week, the largest reduction for a seven-day period this year. The bullish position was short lived, however, and the latter part of last week several refiners reduced their prices, especially on large orders for delivery over the balance of the month.

Encouraging Development

On Monday there was encouraging development in the action of Cosden & Co., the major refiner of the State, which, after tentatively reducing its prices on three grades of gasoline, decided to continue at its old prices which had been in effect for a little over a week. These prices are 7¾ cents for what is termed a New Navy grade, 7½ cents for 58-60, 450 and 7⅜ cents for 56-58, 450. These prices are direct to the trade with the usual ¼-cent reduction for resale. It is understood that the company contemplated reducing these prices ⅛-cent but indefinitely postponed this action when orders at the old prices came in satisfactory volume on Monday.

Lack of cars to handle orders for immediate shipment probably accounts for some of the strength in the spot market apparent on Monday. Buyers agree that, with few exceptions, refiners do not have the cars available to take on additional business for immediate delivery. Cosden & Co., which continues active in the spot market, has profited by this situation as it has been able to promise immediate delivery. The situation is shown by the fact that refiners asking as high as 7¾ cents for immediate shipment have accepted orders under 7½ cents for delivery later in the month. These refiners fear prices will be lower the latter part of the month and although they do not have cars available at this time are anxious to contract their requirements for later delivery. At least three or four of these refiners which last week sold for 7¼ cents for delivery over the month have contracted their requirements and inquiry the first of the week showed they had boosted their prices in line with those who are asking 7½ cents and above.

Bureau of Mines Report

Many market observers were giving careful consideration to the Bureau of Mines report released last week, covering the June operations of refineries for the entire United States, coupled with revised figures giving a complete report for the first six months of this year. These market students are inclined to believe the Government report very clearly points to certain dangers over the balance of the year, provided refiners do not heed the warning. Up to the present time, despite recent crude and tank wagon reductions, the spot market on gasoline at the refineries has held up fairly well. This has been partially due to the fact that reductions in the refinery prices had already discounted the crude and tank wagon reductions together with the fact that the reductions occurred during the heaviest gasoline consuming period of the year with refiners drawing on their stocks.

But these market students are looking two to six months ahead when this maximum consuming period will be over and they believe immediate action on the part of refiners is necessary if further disaster to the markets, especially gasoline, is to be averted in the latter months of the year, when consumption will be declining.

The Bureau of Mines report showed that on July 1, there were 1,598,858,219 gallons of gasoline in storage at refineries representing a decrease of 51,095,536 gallons from the June 1 figure. Some of the trade were inclined to point this figure as an encouraging development overlooking the fact that a much larger reduction in stocks is to be expected in June, one of the five main gasoline consuming months of the year. The stocks on July 1 are approximately 100,000,000 gallons higher than the peak estimate for the year made by market observers early in the year. They did not believe that gasoline stocks would exceed a billion and a half gallons and if that total developed, they felt confident it would come in May, generally the month in which gasoline stocks mount to the highest point of the year. It will be recalled that gasoline stocks instead of declining in May, continued to accumulate with no reductions until some time in June.

Stocks Increase

This situation in regard to supply and demand can be better emphasized when the comparative figures for the first six months for this year and last are considered. Total gasoline production the first six months this year, including imports, was 4,461,798,000 gallons, against 3,780,460,000 gallons last year, an increase of 681,338,000 gallons. Gasoline consumption the first half of this year, including exports, was 3,937,842,000 gallons, an increase of 537,172,000 gallons when compared to the first half of last year. In brief, there was an 18 per cent increase in production and a 15 per cent increase in consumption over the first half of last year. As a result of this unfavorable situation in regard to supply and demand between January 1 and July 1 of this year refiners in United States added 523,958,569 gallons of gasoline to their storage.

The Government figures show that the increase in gasoline consumption the first half of the year was not as great as expected, due partially to the low consumption of February and March, accounted for by the unfavorable weather. However, it should be borne in mind that June domestic consumption was only 8.4 per cent greater than June of last year.

Some are inclined to dismiss these data with the statement that figures for the first six months are ancient history or "water already over the dam." Unfortunately, the record stocks of gasoline which this first six months brought is still to go over the dam and for that reason must be considered in determining fundamental conditions over the last half of the year.

Looking to Future

It is apparent that refiners must do something to change the relative situation that existed between supply and demand over the first half of the year. If this 18 per cent in production and 15 per cent increase in consumption continues over the latter half of the year, the year 1925 will open with a billion and a half gallons of gasoline in storage. It requires no proof to state that the refinery gasoline market does not need within 300,000,000 gallons of that figure on January 1, when the industry is just entering the lowest gasoline consuming period of the year, which extends to May 1. It is apparent that if this relative position between supply and demand continues over the last half of the year not only will gasoline sink to lower price levels between now and January 1, but the refining industry will get away to a bad start for next year.

It may be contended that the gasoline consumption over the last half of the year will show more than a 15 per cent increase. This may materialize, although unlikely, when it is recalled that there was a tremendous increase in consumption the latter part of last year over the last half of 1922. Market observers are a unit in declaring that the real remedy lies in reduced operations on the part of refiners. They say operations must be curtailed so that between 300,000,000 and 400,000,000 gallons of gasoline are withdrawn from stocks before the first of the year.

Up to Refiners

These market students point out that not only will this action aid the gasoline market but it will also tend to stabilize the crude market and prevent a premature advance such as many believed occurred last year and year before. It is generally agreed that by mid fall or at least early winter, there will be a tightening in the crude market, due to slump in production brought about by the low price. However, in line with the plan just outlined, refiners can prevent a rapid increase in crude prices, if they are conservative in their operations and reduce their gasoline inventories until the spring demand gets under way another year. The lower crude prices now in effect, which may go still lower within the next few weeks, will present a temptation for enlarged rather than curtailed operations to many refiners. However, past experience has shown that these increases have been partially offset by major organizations which prefer to store the low-priced crude and buy part of their gasoline requirements on the open market.

Greater Recovery Factor

One other situation, as revealed in the Bureau of Mines report, can also be presented in the plea for less operating activity on the part of refineries over the balance of the year. This has to do with the large increase in gasoline recovery from crude. Refiners in June ran an average of 1,747,869 bbls. of crude daily to their stills. This was only 1 per cent increase in the crude runs of June of last year and yet the total domestic production of gasoline in June of this year was 737,080,701 gallons against 636,734,217 gallons for the same month last year. In brief, a 100,000,000-gallon increase in gasoline production was secured, although 1 per cent more crude was run to stills. The situation for the entire United States can be visualized from the comparative data which show an average gasoline recovery of 33.4 per cent for June of this year and 31.7 per cent in June of last year. For Oklahoma and Kansas the recovery was 46 per cent this year and 42.5 per cent last year.

These percentages are based on crude runs to stills and not "total runs to stills." The enlarged use of natural gasolines, as well as increased refinery efficiency, accounts for part of this increase in gasoline. But regardless of the causes, it is apparent it means more gasoline for every barrel of crude and this situation must be considered in gauging the available gasoline supply in the future.

Gasolines and Naphtha

There was little change in the market for the higher gravity gasolines. Refiners are centering their attention on the

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REFINED MARKET BAROMETER

There were few developments in refined markets during the past week of more than local significance. Conditions in regard to gasolines continue irregular with prices slightly lower in some areas, but firm in others. Scattered "price wars" are still reported from some areas in the tank wagon markets. Both kerosene and fuel oils are strong at interior points, but the market is unsettled in the East and extreme West, with prices lower where any changes have occurred. Some of the reductions are accounted for as a development of the lower crude prices in the Gulf Coast area. Natural gasolines are firm or advancing in the Mid-Continent, with no changes in other areas. Lubricating oils are sluggish, although there were no prices changes of a general nature. Wax continued strong. There were no general changes in other products.

Mid-Continent—Gasoline prices generally are ¼ cent lower than last week, although there was little change in U. S. motor gasoline in Oklahoma and Kansas. Natural gasolines are strong, with important advances in the casinghead grades. Blend prices are unchanged. Fuel oil and gas oil prices are either firm or higher than last week. Kerosene and distillates firm. No change in lubricating oils, which continue sluggish.

Atlantic Seaboard—Record consumption of little aid to the gasoline market with jobbers buying as little as possible in expectation of lower prices. Gasoline stocks at eastern refineries on July 1 were 100,000,000 gallons greater than same date last year. Fuel oil unsettled and gas oil dull. Little activity in kerosene. Wax stronger.

California—Local price cutting in Los Angeles area by small refiners only change in gasoline market and this development of no general importance. Natural gasoline market fluctuating. Kerosene and fuel oil movement slow, but prices unchanged. Lub oils sluggish.

Pennsylvania—Gasoline prices lower, with jobbers expecting further reductions. Kerosene prices unchanged. Fuel oils slow. Filtered cylinder stocks stronger. Neutral weak. Wax strong.

Gulf Coast—Refiners slow in reducing neutral prices following latest reduction in Gulf Coast crude prices. Fuel and gas oils lower in price.

Chicago—Rainy weather retarding gasoline consumption. Gasoline prices slightly lower. Kerosene demand better, with prices unchanged. Fair movement of fuel and gas oils. Better tone in lub oils.

Missouri Investigates Gasoline Prices

Proceeding Which Attorney General Barrett Says is Not a Prosecution Gets Under Way at Jefferson City Hearing

JEFFERSON CITY, Mo., Aug. 12.—Evidence purporting to prove that central Missouri dealers fix their gasoline prices daily by agreement after consulting the local Standard Oil agency for price information was offered in testimony at the first hearing of the anti-trust gasoline inquiry instituted by Attorney General Jesse W. Barrett against the Standard Oil Co. of Indiana. Price fixing, control of competition and unfair discrimination against certain communities within the State are charged by the Attorney General.

Mr. Barrett sought to bring out, through the testimony of several local witnesses that the big producers and refiners frowned on attempts by the "little fellows" to reduce prices on the ground that such a move was in violation of an understanding to stand by an agreed price.

Testimony was given by J. E. Wells and his partner, R. E. Glover, Jefferson City distributors for The Texas Co. Dewitt C. Chastain, of Butler, Mo., special commissioner appointed by the Supreme Court, presided over the hearing, which was conducted by the Attorney General, assisted by Henry Davis and Harry Thomas, Assistant Attorney General.

Both Wells and Glover testified it was the accepted rule of the independent dealers here to call the local agency of the Standard each morning and obtain the gasoline price for the day. Neither was able, however, to explain who instructed them as to that means of obtaining their price, nor were they able to explain how long such a practice had been in effect.

"We always call the Standard in the morning and ask the price of gasoline and then make ours the same," Wells. said.

Local Price Controversy

Wells told of a local price controversy which resulted over his agency selling gasoline at tank wagon prices to the Yellow Cab Co. He said that he received several complaints from other dealers and finally was visited by Charles S. Allee, of Kansas City, secretary of the Missouri Oil Men's Association, who told him that the local companies had an agreement not to sell at tank wagon rates except to persons owning storage tanks of more than 30 gallons capacity, or in isolated instances where a motorist exhausted his supply in a district far from a filling station. Mr. Allee was also quoted as saying that the local companies should have an agreement to keep the price up. "We oil men must stand together," Wells quoted him as saying.

Both Wells and Glover said they had refused to sell the taxi company after Mr. Allee's visit, "because we didn't want to do anything out of line with the others."

They were questioned closely regarding their ability to sell gasoline across the Missouri River at New Bloomfield and Cedar City, Mo., at 13.2 cents a gallon, tank wagon rate, while the same rate in Jefferson City is 17.2 cents a gallon. They explained that there is a protection clause in their contract with The Texas Co. which guarantees them 4 cents a gallon marginal profit and allows them to reduce rates wherever a price war is waging, as in the case in the New Bloomfield and Cedar City territory, where the Standard agent has admitted cutting the retail rate from 19.2 cents, the rate fixed here, to 15 cents.

"In other words," Mr. Barrett asked, "you couldn't get more and you saw no reason for taking less, isn't that right?"

"Yes, sir."

L. E. Hidelbaugh, operator of a general store at Cedar City and the Standard agent mentioned by Wells as the one who reduced the price, admitted the charge when he took the stand. He denied ever receiving orders from his company, saying he did it on his own initiative and that it brought him more business.

He explained his ability to effect the reduction in this way: Until June 1, this year, Hidelbaugh had been in the New Bloomfield territory, but at that time was transferred to the Jefferson City territory because the town in which his pump is located is within 2 miles of this city and 12 miles from New Bloomfield.

Several weeks ago the price in the New Bloomfield territory was reduced to 12.2 cents a gallon because of competitive prices. It remained at 17.2 cnets, tank wagon, in the Jefferson City teritory. Wishing to hold his business Hidelbaugh hired a farmer to drive to Holt Summit, 6 miles from Cedar City, where the Standard has storage tanks, fill up the wagon with five to six drums of gasoline, which he placed in his pump and sold at 15 cents. As a consequence he has been able to beat Jefferson City competition even though the consumer has to pay 25 cents bridge toll in order to get the cheaper rate.

A. V. Pollack, vice president and general manager of the Home Oil Co. here, testified that he bought his gasoline on the open market at from 7½ to 8 cents a gallon plus freight amounting to 1.9 cents a gallon. He said that Hidelbaugh had forced him out of the Cedar City and New Bloomfield territory because he could not meet his prices even though he bought "distressed" gasoline on the spot market.

Refinery Counsel on Stand

One of the outstanding witnesses was W. E. Macewen, of Cleveland, Ohio, vice president and general counsel for the National Refining Co. He denied that there is or has been a conspiracy on the part of any of the oil companies to control competition. He told the Attorney General that the variations in prices are due to a tremendous overproduction and underdemand, the latter being caused by inclement weather, which has prevented the usual amount of touring this summer.

As a consequence, he said, there is an enormous amount of "distressed" gasoline on the market which is impossible to store and must be sold at once. When a supply of this reaches a certain territory the market breaks at once, because the other dealers are forced to meet the price of the distributor who has obtained this gasoline. He ended his testimony with a brief bit of praise for the "fair and square" business methods of the Standard Oil Co. He volunteered the information that the Indiana corporation owned no stock in the National Refining Co.

An interesting story of how two garage owners schemed to reduce prices in Mexico, Mo., was related on the stand by H. E. Pearl, owner of the Pearl Motor Co. of that city, who inaugurated the idea.

Pearl leases his pump from the Standard and, in accordance with the provisions of his lease, may not sell other brands of gasoline. His competitor has two pumps which he owns and is the local agent for the Pierce Petroleum Co. The competitor reduced his pump price from 21 to 20 cents. Pearl reported it to his company with the request that they follow. The Standard people replied that since it was only a local cut and probably would not last, he would have to stand the loss.

Story of One Local Cut

Hearing of a price war at Fulton, about 20 miles north, Pearl hired a tank wagon to go up there, where he purchased 420 gallons at 12.2 cents a gallon from the Penn Lubric Oil Co. This he brought to Mexico and, in accordance with an agreement with his competitor, sold from one of the others pumps at 14.2 cents. Both then wired their respective refineries of the cut in price at Mexico, and both companies met the cut.

Mr. Barrett asked why he went to all that trouble to gain a price cut in which he could hope to profit but a few cents on the gallon. He explained by saying that his principal gasoline business comes from tourists passing through and that they were complaining and many had gone on to some other town rather than pay the high rate.

About 20 independent dealers were on the stand. A number of Standard Oil officials attending the hearing were anxious to testify, but Mr. Barrett has subpoenaed a number of officials of other companies from St. Louis, Kansas, St. Joseph, Springfield and other sections of the State.

One of his star witnesses probably will be Fred Tate, formerly a Department of Justice investigator and now a special operative for Barrett. J. T. Dunn, of the United States Department of Justice, is here attending the hearings as a special observer.

Among the Standard Oil officials attending the hearings are John D. Clark, Chicago, vice president; L. L. Stephens, Chicago, general counsel; Edgar Bogardus, Chicago, assistant vice president in charge of sales; George M. Cook, Chicago, director of public relations; H. A. Lewis, Chicago, assistant general manager for the western district; Merwin Bristow, secretary to Mr. Clark; T. B. Clifford, manager of the St. Louis office; H. C. Griffen, Kansas City manager; C. S. Wagner, manager at St. Joseph, Mo., and A. L. Martin, manager at Quincy, Ill.

Standard and Sinclair Companies

The existence of a mutual agreement between the Standard and Sinclair Oil Cos. in Kansas City, Mo., and Kansas, not to solicit each other's accounts but to concentrate upon the independent dealers, was testified to at Tuesday's hearing by C. M. Reynolds, a gasoline pump dealer of Kansas City and former city sales manager for the Sinclair Oil Co.

A written statement by Reynolds made to Attorney General Barrett was introduced. In this statement Reynolds said that E. H. Crandall, division manager for Sinclair, told him of a luncheon engagement with H. C. Griffen at which it was agreed that it would in the future be the established policy of both companies to refrain from soliciting each other's accounts. Reynolds said that Mr. Crandall gave him orders to concentrate upon the independent dealers. One of his salesmen obtained a Standard account in Kansas City, Kans., after his agreement was made. The Sinclair Co. refused to supply the gasoline after the dealer had notified the Standard people to remove their pumps.

Reynolds also testified that virtually every company in Kansas City was engaging in the practice of giving secret rebates during the latter part of 1922. He

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FRANK M. BREENE, WELL KNOWN OIL PRODUCER, ANSWERS LAST CALL

Mid-Continent oil producers lost a real champion and friend when Frank M. Breene, president of the Osage Oil & Gas Lessees' Association, and president of the Winona Oil Co., died at Memorial Hospital, New York, Friday, August 8, after a lingering illness. Mr. Breene was one of the few remaining practical oil men who have been instrumental in the pioneer development of the Mid-Continent fields. He knew the business of oil production from the ground up, and his success was used merely as an opportunity to aid his fellow independent producers, according to the expressions from his many friends and acquaintances in Tulsa.

"He was probably the best known independent oil producer in the Mid-Continent Field," declared John M. Markham, Jr., who began his association with Mr. Breene and his brother at Scio, Ohio, in 1897, and who has been associated with them in the development of many excellent properties, including a number of choice Osage Indian leases.

Frank Breene and his brother followed the trend of oil production westward, going to Independence, Kans., in 1904, from Lima, Ohio, following the development of the Ohio fields. They moved to Bartlesville in 1907, and operated in the Bartlesville Field, at Glenn Pool, Hamilton Switch and other areas south of Tulsa, moving to Tulsa in 1917. When the Osage Nation was thrown open for lease, Mr. Breen and Mr. Markham developed several properties together. The larger portion of the properties of the Winona Oil Co. also are in Osage County.

His greatest achievement for the independent oil men was the organization of the Osage Oil & Gas Association, of

Frank M. Breene

which he was the only president. He took a prominent part in the writing of the new rules and regulations that cover the leasing of the Osage lands for oil and gas

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Refinery Statistics for the Month of June 1924

Compiled by G. H. Hopkins, Petroleum Economist

During the month of June 254 refineries reported as operating at 79 per cent of their aggregate daily crude oil capacity of 2,215,572 bbls., running to stills a daily average of 1,747,869 bbls. of both foreign and domestic crude. This was a decrease of 1 per cent from the operations of the month before and an increase of 1 per cent over the operations of June, 1923.

The production of gasoline during the month of June amounted to 737,080,701 gallons, this being the first slump in the curve of increased production which began in March of this year. Compared to the output of the preceding month there was a daily decrease in production of 598,192 gallons or 2.4 per cent. Compared to the output for June, 1923, there was an increase in production of 16 per cent. Stocks of gasoline on hand at the refineries decreased 51,095,536 gallons during the month of June, there being 1,598,858,219 gallons on hand at the end of the month. Exports increased 18,451,190 gallons over the figures for May, total exports being 115,330,959 gallons. Imports showed very little change, total imports being 13,828,926 gallons. Domestic demand was 686,674,204 gallons, a daily increase over the preceding month of 1,163,484 gallons or 5.4 per cent and a daily increase over June, 1923, of 8.4 per cent.

The production of kerosene in June amounted to 183,141,014 gallons, a daily decrease of 346,668 gallons or 5.4 per cent from the preceding month, but a daily increase of 2.3 per cent over the production of a year ago. Total stocks on hand at the end of June were 293,322,967 gallons.

The output of gas and fuel oils was 1,106,711,936 gallons, a decrease of 49,223,844 gallons from the May production. Stocks on hand increased 62,900,663 gallons during the month.

The production of lubricants amounted to 96,994,523 gallons, a decrease of 7,444,014 gallons from the May production. Stocks on hand increased 4,853,566 gallons during the month Thus as with gas and fuel oils, the production of lubricants decreased but stocks increased during the month of June, indicating a lower domestic demand for these two products, which was the case

Gasoline—	Production	*Imports	*Exports	Stocks End of Period	Domestic Demand
June, 1923	636,734,217	7,135,248	75,314,994	1,246,583,128	633,504,590
January, 1924	695,322,500	19,309,197	88,823,007	1,200,287,779	500,420,561
February	677,740,318	5,189,928	103,546,045	1,383,383,889	396,288,091
March	743,248,292	13,223,836	85,090,057	1,587,584,872	467,181,088
April	754,773,232	7,627,299	116,941,248	1,625,869,129	607,175,026
May	780,194,019	14,265,697	96,879,769	1,649,953,755	673,495,321
June	737,080,701	13,828,926	115,330,959	1,598,858,219	686,674,204
Kerosene—					
June, 1923	179,073,758	17,426	64,753,813	264,301,002	122,708,653
January, 1924	217,767,931	20,536	64,762,389	300,265,249	135,956,496
February	196,826,060	24,070	73,408,906	306,727,001	116,979,472
March	200,038,627	20,835	53,036,540	330,009,861	123,740,062
April	203,185,921	56,787	88,863,901	288,964,972	155,423,696
May	199,992,393	47,042	79,421,026	304,005,726	105,577,655
June	183,141,014	15,675	82,438,794	293,322,967	111,400,654
Gas and Fuel Oils—					
June, 1923	970,869,873	51,245,318	122,350,144	1,324,025,107	822,402,120
January, 1924	1,062,892,393	36,471,249	109,908,000	1,471,544,338	1,032,946,015
February	1,025,421,651	59,830,201	112,994,698	1,491,173,016	952,628,476
March	1,114,411,725	48,619,520	134,973,335	1,487,463,907	1,031,767,019
April	1,116,763,663	41,826,326	120,344,289	1,536,337,206	989,372,401
May	1,155,935,780	63,630,173	133,852,785	1,555,662,866	1,066,387,508
June	1,106,711,936	45,807,861	143,110,953	1,618,563,529	946,508,181
Lubricants—					
June, 1923	95,726,103	251,411	38,554,238	225,137,230	58,574,562
January, 1924	94,534,650	2,897	25,175,405	243,224,109	68,923,103
February	93,824,414	32,566	33,526,615	253,845,381	49,709,093
March	101,126,865	29,436	40,664,791	249,789,026	64,547,865
April	96,966,565	18,617	34,261,964	251,047,444	61,464,800
May	104,438,537	223,419	46,783,286	243,732,406	65,193,708
June	96,994,523	26,965	33,500,017	248,585,972	58,667,905

*From Bureau of Foreign and Domestic Commerce. Exports include shipments to Alaska, Hawaii and Porto Rico.

RUNS TO STILLS AND OUTPUT OF REFINERIES IN THE UNITED STATES, JUNE, 1924

Oils runs to stills (bbls.):	Crude Oils—Dom.	Crude Oils—For.	Unfin. Oils—Dom.	Unfin. Oils—For.	Nat. Gas Gasoline	Total Oils Run to Stills
East Coast	9,727,876	2,325,718	707,258	33,922	207,128	13,001,902
Pennsylvania	1,815,578	.....	76,500	.....	24,476	1,916,554
Indiana and Illinois	4,429,257	.....	642,658	.....	72,218	5,144,133
Oklahoma and Kansas	6,405,472	.....	395,150	.....	205,038	7,005,660
Texas	8,702,733	532,977	259,932	25,765	160,133	9,981,540
Louisiana and Arkansas	2,830,136	565,966	191,860	18,201	26,637	3,632,800
Colorado and Wyoming	2,314,198	.....	1,253,604	.....	68,748	3,636,550
California	12,486,165	.....	208,778	.....	155,671	12,850,614
Total United States	48,711,415	3,724,661	3,735,740	77,888	920,049	57,169,753
Daily aver. June, 1924	1,623,714	124,155	124,525	2,596	30,668	1,905,658
Daily aver. June 1923	1,486,903	106,543	.....	.....	.....	1,625,872
Texas Gulf Coast	6,370,849	832,977	169,971	25,765	146,424	7,545,986
Louisiana Gulf Coast	1,606,118	565,966	67,756	18,291	.....	2,258,041

Output and losses:	Gasoline (gals.)	Kerosene (gals.)	Gas and Fuel Oils (gals.)	Lubricants (gals.)	Wax (lbs.)
East Coast	150,008,749	40,982,226	262,296,251	30,872,239	16,932,384
Pennsylvania	28,819,158	11,806,829	17,049,892	14,368,972	5,562,741
Indiana and Illinois	98,901,181	19,658,453	52,793,526	8,111,961	3,500,154
Oklahoma and Kansas	123,758,838	24,256,485	107,932,566	7,919,154	4,084,667
Texas	132,070,995	39,907,549	181,000,063	21,759,037	4,097,997
Louisiana and Arkansas	32,674,424	16,027,756	70,339,952	2,298,606	2,524,172
Colorado and Wyoming	57,067,869	10,393,705	45,315,895	1,897,922	3,552,569
California	116,779,487	20,108,017	369,933,790	8,765,632	3,629
Total U. S.	737,080,701	183,141,014	1,106,711,936	96,994,523	40,319,313
Daily aver. June, 1924	24,569,357	6,104,700	36,890,398	3,233,151	1,343,977
Daily aver. June, 1923	21,224,474	5,969,125	32,362,329	3,190,870	1,247,604
Texas Gulf Coast	95,562,306	33,204,382	134,881,725	20,548,570	3,958,319
La. Gulf Coast	23,158,084	13,211,767	34,657,876	1,971,048	2,524,172

	Coke (tons)	Asphalt (tons)	Other Fin. Prod. (gals.)	Unfinished Prod. (gals.)	Losses (bbls.)
East Coast	12,932	111,197	7,269,297	5,473,638	432,957
Pennsylvania	1,932	406	924,078	1,749,574	102,742
Indiana and Illinois	19,598	12,127	7,302,971	17,992,037	118,667
Oklahoma and Kansas	5,088	.....	1,877,201	13,932,462	297,893
Texas	10,762	22,592	151,824	22,283,936	340,408
Louisiana and Arkansas	4,386	30,286	7,781,120	11,836,234	74,798
Colorado and Wyoming	5,418	1,779	285,376	31,629,529	88,309
California	.....	43,321	5,873,976	.....	194,252
Total United States	60,116	221,708	31,465,843	104,897,410	1,650,017
Daily average June, 1924	2,004	7,390	1,048,861	3,496,580	55,000
Daily average June, 1923	1,511	7,158	945,901	.....	53,211
Texas Gulf Coast	10,762	22,592	.....	13,776,576	267,228
Louisiana Gulf Coast	4,146	30,286	4,152,992	7,632,704	42,137

STOCKS AT REFINERIES IN THE UNITED STATES, JUNE 30, 1924

Oils to be run to stills (bbls.):	Crude Oils—Dom.	Crude Oils—For.	Unfin. Oils—Dom.	Unfin. Oils—For.	Total Oils to Be Run to Stills
East Coast	7,964,486	2,744,982	6,129,040	59,791	16,898,299
Pennsylvania	1,321,639	.....	1,000,691	.....	2,322,330
Indiana and Illinois	1,536,253	.....	2,106,522	.....	3,642,775
Oklahoma and Kansas	4,856,533	.....	1,824,305	.....	6,680,838
Texas	6,291,358	1,908,884	5,643,532	.....	12,943,775
Louisiana and Arkansas	5,882,441	1,388,377	1,685,137	193,550	9,149,505
Colorado and Wyoming	1,257,669	.....	1,756,808	.....	3,014,477
California	6,246,397	.....	12,258,329	.....	18,504,726
Total United States	35,357,776	5,142,243	32,407,365	249,341	73,156,725
Total U. S. June 30, 1923	25,383,519	6,334,724	23,800,808	295,260	60,814,311
Texas Gulf Coast	4,873,353	1,008,884	5,222,771	.....	11,105,008
Louisiana Gulf Coast	5,552,812	4,388,377	1,510,683	189,550	8,650,422

Products:	Gasoline (gals.)	Kerosene (gals.)	Gas and Fuel Oils (gals.)	Lubricants (gals.)	Wax (lbs.)
East Coast	349,428,551	78,578,600	194,117,428	86,726,412	50,761,352
Pennsylvania	43,192,875	12,635,089	27,995,445	33,548,318	18,409,626
Indiana and Illinois	213,849,346	28,062,743	61,267,095	26,199,164	14,729,369
Oklahoma and Kansas	215,917,300	21,934,810	128,732,942	16,956,511	2,224,715
Texas	165,163,802	59,642,153	283,968,869	56,584,580	7,199,159
Louisiana and Arkansas	141,410,732	52,207,114	79,166,210	8,112,973	11,197,166
Colorado and Wyoming	186,719,091	7,841,491	33,301,882	4,525,855	3,613,402
California	283,176,522	32,420,967	810,013,658	15,932,159	4,490
Total U. S.	1,598,858,219	293,322,967	1,618,563,529	248,585,972	108,139,983
Total U. S. June 30, 1923	1,263,583,128	264,301,002	1,324,025,107	225,137,230	178,793,109
Texas Gulf Coast	144,583,056	44,858,730	225,841,157	55,607,429	7,146,009
La. Gulf Coast	135,475,351	51,086,263	64,569,210	7,514,137	11,197,166

	Coke (tons)	Asphalt (tons)	Other Fin. Prod. (gals.)
East Coast	14,379	67,999	6,388,228
Pennsylvania	110	1,944	2,965,161
Indiana and Illinois	9,448	6,947	23,990,792
Oklahoma and Kansas	7,618	74	2,497,127
Texas	10,430	16,533	122,132
Louisiana and Arkansas	6,443	17,541	28,007,398
Colorado and Wyoming	3,238	4,089	259,689
California	.....	18,742	430,008
Total United States	51,666	133,869	65,570,536
Total U. S. June 30, 1923	24,338	138,500	32,731,321
Texas Gulf Coast	10,430	16,533	.....
Louisiana Gulf Coast	5,683	17,541	2,428,639

COMPARATIVE ANALYSIS FOR MAY, 1924

Gasoline—	Production	*Imports	*Exports	Stocks End of Period	Domestic Demand
May, 1923	631,704,693	14,642,980	71,696,516	1,328,533,247	582,536,701
January, 1924	695,322,500	19,309,197	88,823,007	†1,200,287,779	†500,420,561
February	677,740,318	5,189,928	103,546,045	†1,383,383,889	†396,288,091
March	743,248,292	13,223,836	85,090,057	†1,587,584,872	†467,181,088
April	754,773,232	7,627,299	116,941,248	†1,625,869,129	†607,175,026
May	780,194,019	14,265,697	96,879,769	†1,649,953,755	673,495,321
Kerosene—					
May, 1923	189,176,846	11,000	54,957,333	272,672,284	134,563,499
January, 1924	217,767,931	20,536	64,762,389	†300,265,249	†135,956,496
February	196,826,060	24,070	73,408,906	†306,727,001	†116,979,472
March	200,038,627	20,835	53,036,540	†330,009,861	†123,740,062
April	203,185,921	56,787	88,863,901	†288,964,972	†155,423,696
May	199,992,393	47,042	79,421,026	†304,005,726	105,577,655
Gas and Fuel Oils—					
May, 1923	966,165,819	42,121,041	115,837,414	1,246,662,180	918,765,596
January, 1924	1,062,892,393	36,471,249	109,908,000	†1,471,544,338	†1,032,946,015
February	1,025,421,651	59,830,201	112,994,698	†1,491,173,016	†952,628,476
March	1,114,411,725	48,619,520	134,973,335	†1,487,463,907	†1,031,767,019
April	1,116,763,663	41,826,326	120,344,289	†1,536,337,206	†989,372,401
May	1,155,935,780	63,630,173	133,852,785	†1,555,662,866	1,066,387,508
Lubricants—					
May, 1923	105,362,853	132,653	39,651,831	226,288,516	74,255,389
January, 1924	94,534,650	2,897	25,175,405	†243,224,109	†68,923,103
February	93,824,414	32,566	33,526,615	†253,845,381	†49,709,093
March	101,126,865	29,436	40,664,791	†249,789,026	†64,547,865
April	96,966,565	18,617	34,261,964	†251,047,444	†61,464,800
May	104,438,537	223,419	46,783,286	243,732,406	65,193,708

*From Bureau of Foreign and Domestic Commerce. Exports include shipments to Alaska, Hawaii and Porto Rico. †Revised figures.

STOCKS AT REFINERIES IN THE UNITED STATES
Revised figures for January 31, 1924.

Oils to be run to stills (bbls.):	Crude Oils—Dom.	Crude Oils—For.	Unfin. Oils—Dom.	Unfin. Oils—For.	Total Oils to Be Run to Stills
East Coast	6,132,192	1,717,443	4,365,378	141,036	12,356,049
Pennsylvania	1,220,938	.....	806,808	.....	2,027,746
Indiana and Illinois	1,261,097	.....	2,451,334	.....	3,712,431
Oklahoma and Kansas	5,211,571	.....	1,614,431	.....	6,826,002
Texas	4,738,428	579,729	4,724,422	462,935	10,505,514
Louisiana and Arkansas	4,705,688	1,332,555	2,743,007	163,985	8,945,235
Colorado and Wyoming	1,122,860	.....	1,871,274	.....	2,994,134
California	6,070,057	.....	12,113,523	.....	18,183,580
Total United States	30,462,831	3,629,727	30,690,077	767,955	65,550,690
Total U. S. Jan. 31, 1923	19,639,779	10,274,137	22,981,528	121,047	53,016,491
Texas Gulf Coast	4,022,867	579,729	4,190,235	462,935	9,255,766
Louisiana Gulf Coast	4,328,832	1,332,425	2,559,964	163,985	8,385,206

Products:	Gasoline (gals.)	Kerosene (gals.)	Gas and Fuel Oils (gals.)	Lubricants (gals.)	Wax (lbs.)
East Coast	290,122,853	78,912,850	246,262,918	101,895,349	55,376,170
Pennsylvania	29,214,493	13,166,615	30,873,579	28,178,127	17,680,600
Indiana and Illinois	161,067,986	38,814,943	42,908,158	22,167,539	26,326,294
Oklahoma and Kansas	148,919,667	16,426,813	84,415,038	13,194,651	3,316,642
Texas	146,819,812	67,383,260	322,810,353	54,046,770	7,711,137
Louisiana and Arkansas	105,734,812	52,243,987	58,113,168	3,606,690	31,989,696
Colorado and Wyoming	110,923,873	3,979,934	25,211,799	5,815,003	2,276,146
California	207,484,283	28,336,847	661,009,325	14,319,970	173,333
Total U. S.	1,200,287,779	300,265,249	1,471,544,338	243,224,109	144,849,698
T'l U. S. Jan 31, 1923	1,002,857,273	275,436,804	1,265,074,722	240,689,649	195,705,023
Texas Gulf Coast	128,359,137	54,320,457	279,830,293	53,613,636	7,681,561
La. Gulf Coast	102,600,077	51,252,872	51,113,473	3,053,256	31,989,696

	Coke (tons)	Asphalt (tons)	Other Fin. Prod. (gals.)
East Coast	7,586	61,831	4,897,469
Pennsylvania	103	2,929	2,311,473
Indiana and Illinois	6,622	9,159	18,209,716
Oklahoma and Kansas	3,972	230	2,650,165
Texas	598	13,057	6,972
Louisiana and Arkansas	760	15,129	12,081,954
Colorado and Wyoming	6,638	3,418	934,747
California	.....	13,547	124,519
Total United States	26,279	119,300	41,216,955
Total U. S. Jan. 31, 1923	29,625	123,779	21,033,065
Texas Gulf Coast	598	13,057	.....
Louisiana Gulf Coast	520	16,129	978,426

STOCKS AT REFINERIES IN THE UNITED STATES
Revised figures for February 29, 1924.

Oils to be run to stills (bbls.):	Crude Oils—Dom.	Crude Oils—For.	Unfin. Oils—Dom.	Unfin. Oils—For.	Total Oils to Be Run to Stills
East Coast	6,726,647	1,883,256	4,112,119	121,114	12,843,135
Pennsylvania	1,213,815	.....	786,929	.....	2,000,744
Indiana and Illinois	1,271,028	.....	2,430,369	.....	3,701,397
Oklahoma and Kansas	5,297,711	.....	1,876,704	.....	7,174,415
Texas	5,466,522	678,847	4,916,853	428,490	11,490,712
Louisiana and Arkansas	5,351,484	1,742,997	2,874,037	88,906	10,057,424
Colorado and Wyoming	1,210,405	.....	1,779,939	.....	2,990,344

(Continued on Page 25)

Substitution in Gasoline and Oils

Growth of Practice Arousing Refining Companies Who Make Widely Advertised Brands to Take Measures to Combat It

By L. M. Fanning

It is understood that the evil of substitution has become so serious, particularly in congested centers where gasoline and motor oils are sold in great volume, that large refining companies are considering some effective means of combating it. While no plan has yet been devised other than the individual efforts of each company to protect the public and itself as regards its own brands, it is possible that the National Vigilance Committee of the Associated Advertising Clubs of the World will take a hand in the matter. Meetings have recently been held in New York with a view of trying to get some line on the extent to which the various companies are affected and of getting their views on the steps to be taken against the practice. Some of the companies are certain the sale of their regularly advertised gasoline and oils is cut into in large percentage by willful substitution on the part of dealers. Others are not so certain that they are greatly affected, although there seems to be no doubt in the minds of sales executives that the practice of substitution is more or less prevalent.

Way to Combat Substitution Sought

* * * * *

Apparently the extent of substitution varies considerably, depending upon how universally a brand of oil or gasoline is sold and with the markets. In some sections of the country, substitution is considered to be practiced so generally that it has become a recognized sub-rosa business. In the big Eastern markets the complaint is made that that unscrupulous dealers have no trouble in procuring products at low prices sold to them more or less on the ground that they can easily substitute them for the brands called for by the motorist. This is described as somewhat of a night business, where the bootlegger supplies the oil or fills up the gasoline tank supposed to contain a recognized brand of gas for the dealer under cover of darkness. It is pointed out that with this going on, the dealer is constantly worked on and tempted to substitute. He might be conducting his business legitimately and selling the oil and gas as advertised on his signs or asked for by the motorist when the bootlegger comes along and tells him all the other dealers are substituting oils when they get the chance or putting some cheap gas in their tanks, increasing their margin of profits on sale accordingly.

Supplies Obtained on Moonless Nights

It is not intended to convey the idea that all dealers are yielding to the temptation of substituting. When it is considered, however, that there are some hundred thousand dealers in this country with varying degrees of responsibility and that motor oils and gasoline are sold in great volume the fact that substitution is being practiced implies that the evil has grown or can grow to considerable proportions. The thing that concerns the oil industry is that substitution is growing. The way in which oil and gasoline is sold makes it fairly easy to accomplish substitution. A motorist asks for a certain brand of oil and the dealer can pour it out of a can with the brand name on it which has been previously filled with another oil. Gasoline tanks can be wholly or partially filled with a substituting gas and the gasoline flows into the tank of the motor car from the pump having the brand name upon it. Oil companies individually have found it difficult to detect substitution. One way that suspicion is aroused is when a dealer's requirements for their products shows unusual fluctuation. But even after suspicion is aroused, it is very difficult to obtain the evidence.

Fear Substitution Is Growing

* * * * *

The evil of substitution is not peculiar to the oil industry. Every line of merchandising has it, and various means have been devised to combat it. The oil companies spend millions of dollars annually advertising their brands. Some have created country-wide markets and in any case district markets for their particular products, and with the purchasing public they either stand or fall on the performance of these products in the automobile engine. With respect to direct sales, the companies in their advertising have encouraged the motorist to buy by brand names. This has been universally accomplished. Substitution makes it necessary for the companies to consider some way whereby the motorist can be certain that he is getting what he asks for. Some of the advertising is stressing the point that the motorist ascertain that he receives the goods requested. They are encouraging purchase in original packages. It is recognized, however, that educating the motorist to check up on all his purchases to the extent of getting him to examine packages, etc., is difficult of results inasmuch as the average motorist will not take the trouble to do so. However, it is believed that much can be accomplished by encouraging purchase in original packages.

Purchase in Original Packages

Another line of procedure against substitution is education of the dealer. It is believed that much can be accomplished in the way of getting the honest dealer to display packages and otherwise demonstrate that he is giving the motorist what he asks for. It can be shown to the dealer that in the long run substitution hurts his business. The company can, of course, cancel business with the dealer if substitution is practiced or suspected. All of these logical methods of procedure to combat substitution are being employed to a smaller or greater extent by the various oil companies with advertised brands. It is believed that the concentration along these lines will prove more or less effective, but the fact that substitution is growing, nevertheless, has made it apparent to many of the companies that something more must be done. It is recognized that each company on its own initiative can go only so far in combating the evil. To what extent the companies could proceed on a cooperative basis is problematical.

Dealers Educated to Show Packages

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While it is recognized that the best possible means of doing away with substitution is to prosecute dishonest dealers, individual companies hesitate to take this means on their own initiative because of the possibility of public misunderstanding of such procedure. Moreover the cost of getting evidence, if the method were undertaken on a large scale, would be prohibitive for one company. Inasmuch as substitution seems to be general, affecting all advertised brands, a single company or several companies would scarcely be justified in bearing the expense of trying to wipe out an evil that affects practically the whole trade. While there have been some prosecutions, this has not been the general policy on the part of individual companies. It is believed by some of the oil companies if a general campaign of education of the public and the dealer were put on by some such organization as the National Vigilance Committee, which would proceed to get evidence against dishonest dealers with a view to prosecution, that some headway could be made in wiping out substitution. With investigators in the field and court action against offenders, and the information regarding this activity appearing in the press, it is believed that dealers generally would hesitate before resorting to substitution.

Prosecution of Dishonest Dealers

REFINERY STATISTICS FOR THE MONTH OF JUNE, 1924

(Continued from Page 24)

California	6,321,561	.....	12,442,555	.....	18,774,116
Total United States	32,869,173	4,305,099	31,219,505	638,510	69,032,287
Total U. S. Feb. 28, 1923	19,193,699	8,919,680	23,583,515	149,434	51,846,328
Texas Gulf Coast	4,454,649	678,847	4,443,793	423,325	.....
Louisiana Gulf Coast	5,002,222	1,742,997	2,629,522	58,906	.....

Products:	Gasoline (gals.)	Kerosene (gals.)	Gas and Fuel Oils (gals.)	Lubricants (gals.)	Wax (lbs.)
East Coast	314,857,529	75,740,172	218,398,452	103,985,146	43,514,837
Pennsylvania	37,054,966	13,733,687	24,958,027	29,125,237	19,387,812
Indiana and Illinois	200,347,958	35,133,091	43,233,239	25,891,338	20,655,014
Oklahoma and Kansas	187,061,283	18,859,417	90,953,043	14,303,299	2,378,629
Texas	157,248,167	71,399,487	329,083,370	54,391,852	7,986,927
Louisiana and Arkansas	122,423,361	52,933,756	59,753,522	5,224,105	32,610,015
Colorado and Wyoming	134,399,349	6,574,642	29,725,732	5,778,487	2,403,488
California	229,991,286	32,352,749	695,067,631	15,418,917	157,286
Total U. S.	1,383,383,889	306,727,001	1,491,173,016	253,845,381	129,094,006
Total U. S. Feb. 28, 1923	1,130,340,767	272,762,568	1,276,876,028	238,858,694	187,780,775
Texas Gulf Coast	134,649,551	56,799,609	281,896,488	54,005,398	7,899,500
La. Gulf Coast	118,346,432	52,131,374	52,721,486	4,502,669	32,610,015

	Coke (tons)	Asphalt (tons)	Other Fin. Prod. (gals.)
East Coast	7,634	63,573	4,859,552
Pennsylvania	87	2,728	2,746,104
Indiana and Illinois	4,844	6,885	19,601,648
Oklahoma and Kansas	5,316	188	3,952,010
Texas	2,191	14,717	34,092
Louisiana and Arkansas	5,165	15,100	15,462,512
Colorado and Wyoming	8,586	4,362	1,558,407
California	.....	12,627	194,943
Total United States	33,823	120,185	48,409,269
Total U. S. Feb. 28, 1923	29,321	122,353	22,847,642
Texas Gulf Coast	2,191	14,717	.....
Louisiana Gulf Coast	5,165	15,000	1,436,025

STOCKS AT REFINERIES IN THE UNITED STATES

Revised figures for March 31, 1924.

Oils to be run to stills (bbls.):	Crude Oils—Dom.	Crude Oils—For.	Unfin. Oils—Dom.	Unfin. Oils—For.	Total Oils to Be Run to Stills
East Coast	7,297,870	2,052,063	4,695,513	68,733	14,114,179
Pennsylvania	1,296,979	.....	898,976	.....	2,195,955
Ind'ana and Illinois	1,372,037	.....	2,372,071	.....	3,744,108
Oklahoma and Kansas	5,121,509	.....	1,850,180	.....	6,977,689
Texas	6,099,891	860,762	4,632,114	428,714	12,021,481
Louisiana and Arkansas	5,787,039	1,792,285	2,377,314	169,742	10,126,380
Colorado and Wyoming	1,290,780	.....	1,798,550	.....	3,089,330
California	5,778,968	.....	12,484,358	.....	18,263,326
Total United States	34,045,073	4,705,110	31,109,076	667,189	76,526,449
Total U. S. March 31, 1923	22,622,404	8,471,073	24,422,931	186,933	55,743,341
Texas Gulf Coast	4,855,794	860,762	4,114,823	428,714	10,260,093
Louisiana Gulf Coast	5,366,443	1,792,285	2,069,245	169,742	9,397,715

Products:	Gasoline (gals.)	Kerosene (gals.)	Gas and Fuel Oils (gals.)	Lubricants (gals.)	Wax (lbs.)
East Coast	370,357,863	77,907,212	187,265,256	93,085,122	46,276,702
Pennsylvania	45,342,361	15,056,434	22,353,495	29,163,349	17,587,681
Indiana and Illinois	229,809,746	35,007,594	47,526,229	26,453,576	17,077,110
Oklahoma and Kansas	227,100,013	23,355,162	96,625,305	15,268,376	2,906,166
Texas	157,824,589	71,901,959	314,795,496	53,088,477	8,217,847
Louisiana and Arkansas	145,268,584	58,505,314	80,880,180	6,546,800	30,088,226
Colorado and Wyoming	159,931,039	7,295,413	28,653,024	5,578,890	2,239,790
California	261,950,677	40,980,773	709,364,922	18,604,436	14,484
Total U. S.	1,587,584,872	330,009,861	1,487,463,907	249,789,926	125,016,547
Total U. S. March 31, 1923	1,259,209,171	383,339,806	1,254,122,371	335,262,553	191,849,483
Texas Gulf Coast	133,279,733	55,530,079	258,018,728	52,739,545	8,164,173
La. Gulf Coast	140,475,553	57,942,968	71,036,655	5,690,754	30,066,326

(Continued on Page 132)

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

CHICAGO DIST. (Based on Group 3)—	Aug. 12		Aug. 5		July 29	
50-52 450 end point (Naphtha)	.07¼	.07½	.07¼	.07½	.07½	.07¾
56-58 450 end point	.07¼	.07⅝	.07½	.07¾	.07¾	.08
58-60 437 end point (U. S. Motor)	.07½	.07¾	.07¾	.08	.08	.08¼
60-62 400 end point	.08¾	.09	.09	.09¼	.09¼	.09½
64-66 375 end point	.09½	.09¾	.09½	.10	.10	.10½
68-70 360 end point	.10½	.10¾	.10½	11	.10¾	.11
OKLAHOMA (Group 3)—						
50-52 450 end point (Naphtha)	.07¼	.07½	.07¼	.07½	.07¼	.07½
56-58 450 end point	.07¼	.07½	.07⅝	.07⅝	.07½	.07¾
58-60 437 end point (U. S . Motor)	.07½	.07¾	.07⅝	.07⅞	.07¾	.08
60-62 400 end point	.08¾	.09	.08¾	.09	.08¾	.09
64-66 375 end point	.09¼	.09½	.09¼	.09½	.09¼	.09½
68-70 359-365 end point	.10	.10½	.10¼	.10¾	.10½	.10¾
KANSAS—						
58-60 437 end point (U. S. Motor)	.07¾	.08	.07½	.08¼	.08	.08¼
NORTH TEXAS—						
48-52 450 end point (Naphtha)	.07	.07¼	.07	.07¼	.07	.07¼
50-52 440 end point (Naphtha)	.07	.07¼	.07	.07½	.07¼	.07½
56-58 450 end point	.07¼	.07⅝	.07¼	.07½	.07¼	.07½
58-60 437 end point (U. S. Motor)	.07⅝	.07⅝	.07½	.07¾	.07¾	.08
60-62 400 end point	.08¼	.09	.08¾	.09	.08¾	.09
64-66 390 end point	.08¾	.09	.09	.09¼	.09	.09¼
64-66 375 end point	.09	.09¼	.09¼	.09½	.09¼	.09½
68-70 360 end point	.10	.10¼	.10¼	.10½	.10¼	.10½
NORTH LOUISIANA—						
56-58 450 end point	.07½	.08	.07¾	.08	.07¾	.08
58-60 437 end point (U. S. Motor)	.07¾	.08¼	.08	.08¼	.08	.08¼
60-62 400 end point	.09	.09¼	.09¼	.09½	.09¼	.09½
64-66 390 end point	.09¼	.09½	.09½	.10	.09¾	.10
64-66 375 end point	.09½	.09¾	.09½	.09¾	.09¾	.10
ARKANSAS—						
58-60 450 end point	.07¾	.08	.08	.08¼	.08	.08¼
58-60 437 end point (U. S. Motor)	.08	.08¼	.08¼	.08½	.08¼	.08½
64-66 375 end point	.09½	.09¾	.09½	.09¾	.09¾	.10
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.10¼	.10½	.10¼	.10½	.10¼	.10½
PENNSYLVANIA—						
52 Naphtha	11¼		.11½		.11½	
54 Naphtha	.11½		.11⅞		.11⅞	
56 Gasoline	.11⅝		.12		.12	
58 Gasoline	.11¾		.12¼		.12¼	
60 Gasoline	.12½		.12¾		.12¾	
62 Gasoline	.13¼		.13½		.13½	
64 Gasoline	.14¼		.14¼		.14¼	
66 Gasoline	.15		.15		.15	
68-70 Gasoline	.16¼		.16¼		.16¼	
CALIFORNIA—						
54-60 437 end point (U. S. Motor)	.11.	.12	.11	.12	.11	.12

*Colorado points.

NATURAL GASOLINE

CHICAGO DIST. (Based on Group 3)—	Aug. 12		Aug. 5		July 29	
Grade A, 72-78, under 375 e.p., rec. 90%	.07¼	.07½	.07¼	.07½	.07½	.07¾
Grade B, 76-82, 375 end point, rec. 85%	.07	.07¼	.07	.07¼	.07	.07¼
Grade C, 80-88, 350 end point, rec 78%	.06½	.07	.06½	.07¼	.06¾	.07
OKLAHOMA (Group 3)—						
Grade A., 72-78, under 375 e.p., rec. 90%	.07¼	.07½	.07¼	.07½	.07¼	.07½
Grade B, 76-82, 375 end point, rec. 85%	.07¼	.07½	.07	.07¼	.07	.07¼
Grade C, 80-88, 350 end point, rec. 78%	.07	.07¼	.06½	.06¾	.06¾	.07
Grade D, 88-92, 350 end point	.07	.07¼	.06½	.06¾	.06½	.07
NORTH TEXAS—						
Grade A, 72-78, under 375 e. p., rec. 90%	.07¼	.07½	.07⅛	.07⅜	.07¼	.07½
Grade B, 76-82, 375 end point, rec. 85%	.07	.07¼	.07	.07¼	.07	.07¼
Grade C, 80-88, 350 end point, rec. 78%	.07	.07¼	.06½	.06¾	.06¾	.07
NORTH LOUISIANA—						
Grade B, 72-78, under 375 e.p., rec. 90%	.07¼	.07½	.07	.07¼	.07	.07¼
Grade C, 76-82, 375 end point, rec. 85%	.07¼	.07½	.07	.07¼	.06¾	.07

MOTOR NATURAL GASOLINE (BLEND)

CHICAGO DIST. (Based on Group 3)—	Aug. 12		Aug. 5		July 29	
58-62 437 end point	.07¼	.07½	.07¼	.07½	.07½	.07¾
60-62 450 end point	.07¼	.07½	.07¼	.07½	.07½	.07¾
64-66 450 end point	.07¼	.07½	.07¼	.07½	.07½	.07¾
OKLAHOMA (Group 3)—						
60-62 450 end point	.07¼	.07½	.07¼	.07½	.07¼	.07¾
64-66 437 end point	.07¼	.07½	.07¼	.07½	.07¼	.07¾
68-70 430 435 end point	.07¼	.07½	.07¼	.07½	.07¼	.07¾
NORTH TEXAS—						
58-62 440 end point	.07¼	.07½	.07¼	.07½	.07¼	.07½
58-60 450 end point	.07¼	.07½	.07¼	.07½	.07¼	.07½
PENNSYLVANIA—						
*60-62	.11¼		.11½		.11½	
*64-66	.11¼		.11½		.11½	
*66-68	.11¼		.11½		.11½	
*68-70	.11¼		.11½		.11½	

*At Sistersville, W. Va.

BURNING OIL

CHICAGO DIST. (Based on Group 3)—	Aug. 12		Aug. 5		July 29	
42-43 water white Kerosene	.04⅛	.04⅜	.04	.04¼	.04	.04½
42-44 water white Kerosene	.04⅜	.04⅝	.04¼	.04½	.04¼	.04½
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
42-44 water white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
KANSAS—						
41-43 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
NORTH TEXAS—						
41-43 water white Kerosene	.04	.04⅛	.04	.04⅛	.04	.04⅛
41-43 prime white Kerosene	.03¾	.03⅞	.03⅝	.03¾	.03⅝	.03¾
40-42 prime white Kerosene	.03¾	.03⅞	.03⅝	.03¾	.03⅝	.03¾
42-44 prime white Kerosene	.04¼	.04½	.04¼	.04½	04½	.04¼
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04	.04½	.04	.04⅛	.04	.04⅛
42-44 water white Kerosene	.04¼	.04½	.04¼	.04⅜	.04¼	.04⅜
41-43 prime white Kerosene	.03⅞	.04	.03⅞	.04	.03⅞	.04
ROCKY MOUNTAIN STATES—						
*40-42 water white Kerosene	.07¼		.07¼		.10¼	
ARKANSAS—						
41-43 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
42-44 water white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
PENNSYLVANIA—						
43 Kerosene prime white	.05⅞		.05⅞		.05⅞	
45 Kerosene water white	.06⅛		.06⅛		.06⅛	
46 Kerosene water white	.06½		.06½		.06½	
47 Kerosene water white	.07		.07		.07	
36 Miners' Neutral	.06¼		.06¼		.06¼	
34 Neutral	.06½		.06½		.06½	
34 Sundebloomed Neutral	.07½		.07½		07½	
300 Mineral Seal	.07		.07		.07	
CALIFORNIA—						
40-42 water white (high burning test)	.07½	.08	.07½	.08	.07½	.08
Engine distillate, 43-45 445 end point	.08½	.09	.08½	.09	.08½	.09
Engine distillate, 42-44 480 end point	.07½	.07¾	.07½	.07¾	.07½	.07¾

*Colorado points.

FUEL OILS

CHICAGO DIST. (Based on Group 3)—	Aug. 12		Aug. 5		July 29	
24-26 Fuel Oil (sellers' cars, Group 3)	.75	.80	.75	.80	.75	.80
22-24 (El Dorado)	.80	.85	.80	.85	.80	.85
18-20 (Smackover)	.75	.80	.80	.85	.80	.85
32-36 Gas Oil	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02¾
38-40 Straw distillate	.03	.03¼	.03	.03¼	.03¼	.03⅜
KANSAS—						
24-26 Fuel Oil	.90	.95	.90	.95	.90	.95
32-36 Gas Oil	.02¾	.03	.02¾	.03	.02⅞	.03⅛
38-40 Distillate	.03½	.03⅝	.03½	.03⅝	.03½	.03⅝
OKLAHOMA (Group 3)—						
22-26 Fuel Oil (sellers' cars)	.72½	.75	.72½	.73	.72½	.77½
24-26 Fuel Oil (buyers' cars)	.72½	.75	.70	.75	.72½	.77½
24-26 Fuel Oil (sellers' cars)	.75	.80	.72½	.77½	.75	.80
28-30 Fuel Oil (sellers' cars)	.85	.90	.85	.90	.87½	.92½
32-36 Gas Oil	.02⅝	.02⅞	.02⅝	.02⅞	.02⅝	.02⅞
38-40 Straw distillate	.03¼	.03½	.03⅜	.03⅝	.03⅜	.03⅝
NORTH TEXAS—						
24-26 Fuel Oil	.72½	.77½	.72½	.77½	.72½	.77½
26-30 Fuel Oil	.80	.85	.80	.85	.80	.85
32-36 Gas Oil	.02⅝	.02¾	.02⅝	.02¾	.02⅝	.02⅞
36-38 Gas Oil	.02⅞	.03	.02⅞	.03	.02⅞	.03
38-40 Straw distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
NORTH LOUISIANA—						
20-22 Fuel Oil	.85	.90	.85	.90	.85	.90
32-36 Gas Oil	.02¾	.03	.02¾	.03	.02⅞	.03
36-40 Light Straw distillate	.03	0.3¼	.03	.03¼	.03	.03¼
ARKANSAS—						
38-40 Distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03⅜
32-36 Gas Oil	.03	.03¼	.03	.03¼	.03	.03¼
22-26 Refinery Fuel Oil	.80	.85	.80	85	.80	.85
GULF COAST (South Texas)—						
Gas Oil	.04	.04¼	.04	.04¼	.04	.04¼
Fuel Oil	1.45	1.50	1.40	1.45	1.45	1.50
PENNSYLVANIA—						
30-34 Fuel Oil	.05		.05		.05	
36-40 Fuel Oil	.05¼		.05¼		.05¼	
CALIFORNIA—						
33-36 Distillate	.03¾	.04¼	.03¾	.04¼	.03¾	.04¼
27-33 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03¾
15-20 Fuel Oil	1.40		1.40		1.40	

ROAD OILS

CHICAGO DIST. (Based on Group 3)—	Aug. 12		Aug. 5		July 29	
50-60 Asphaltic Content	.95	1.00	.95	1.00	.95	1.00
60-70 Asphaltic Content	1.00	1.05	1.00	1.05	1.00	1.05
OKLAHOMA (Group 3)—						
40-45 Asphaltic Content	.90	.95	.90	.95	.90	.95
50-60 Asphaltic Content	.95	1.00	.95	1.00	.95	1.00
60-70 Asphaltic Content	1.00	1.05	1.00	1.05	1.00	1.05

NEUTRAL OILS

OKLAHOMA (Group 3)—	Aug. 12		Aug. 5		July 29	
Pale Neutrals:						
70-80 vis., 2½ color, 20-25 cold test	.04	.04½	.04	.04½	.04	.04½
100 vis., 2 color, 20-25 cold test	.05	.05½	.05	.05½	.05	.05½
100 vis., 3 color, 20-25 cold test	.04½	.05	.04½	.05	.04½	0.5
150 vis., 3 color, 20-25 cold test	.08½	.09	.08½	.09	.08½	.09
150 vis., 4 color, 20-25 cold test	.08	.08½	.08	.08½	.08	.08½
180 vis., 4 color, 23-28 cold test	.09	.09½	.09	.09½	.09	.09½
180 vis., 3 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis., 3 color, 23-28 cold test	.11½	.12	.11½	.12	.11½	.12
200 vis., 4 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
220 vis., 3 color, 25-30 cold test	.12½	13	.12½	.13	.12½	.13
220 vis., 4 color, 25-30 cold test	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
240 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
240 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
280 vis., 3 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
280 vis., 4 color, 25-30 cold test	.15½.	16	.15½	.16	.15½	.16
Red Neutrals						
180 vis., 5 color, 23-28 cold test	.08½	.09	.08½	09	.08½	.09
180 vis., 6 color, 23-28 cold test	.12¼	12¾	.12½	.12¾	.12¼	.12¾
200 vis., 5 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
200 vis., 6 color, 23-28 cold test	.13	.13½	.13	.13½	.13	.13½
220 vis., 5 color, 25-30 cold test	.11	.11½	.11	.11½	.11	.11½
220 vis., 6 color, 25-30 cold test	.14¼	.14¾	.14¼	.14¾	.14¼	.14¾
240 vis., 5 color, 25-30 cold test	.13	.13½	.13	.13½	.13	.13½
240 vis., 6 color, 25-30 cold test	.15¼	.15¾	.15¼	.15¾	.15¼	.15¾
280 vis., 5 color, 25-30 cold test	.14½	15	.14½	.15	.14½	.15

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

18-200 vis., S. R. green, 40-45 cold test	.07	.07½	.07½	.08	.07½	.08
190-200 dark green, 40-45 cold test	.06	.06½	.07½	.08	.07½	.08
170-190 dark green, 40-45 cold test	.05¾	.06	.06	.06¼	.06	.06¼
600 E. filtered	.20	.21	.20	.21	.20	.21
590-600 Bright Stock, 150-160 vis.	.28	.29	.28	.29	.28	.29
600-610 Bright Stock, 190-210 vis.	.32	.34	.32	.34	.32	.34
Waxes:						
124-126 White Crude Scale Wax	.04	.04⅛	.04	.04⅛	.04	.04⅛
PENNSYLVANIA—						
150, 3 color	.20		.20		.20	
180, 3 color	.20¾		.20¾		.22	
200, 3 color	.22¼		.22¼		.23¾	
220, 3 color	.26¾		.26¾		.26¾	
600, steam refined	.17		.17		.17	
635, steam refined	.20½		.20½		.20½	
650, steam refined	.22¼		.22¼		.22¼	
600, Pennsylvania flash	.25		.25		.25	
630, Pennsylvania flash	.32		.32		.32	
*550, E. filtered	.19		.19		.19	
*600, E. filtered	.20½		.20½		.22½	
600, E. filtered	.21		.21		.21	
600, D filtered	.27		.27		.27	
550, E. filtered	.20		.20		.20	
550, D filtered	.24		.24		.24	
Pennsylvania Bright Stock	.35		.35		.35	
†122-124 White Crude, Scale Wax	.04¾		.04¾		.04½	
*122-124 White Crude Scale Wax	.04¼		.04¼		.04¼	

*At Warren, Penn. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06	07	.06	.07	.06	.07
No. 2, color, 100 vis., pale oil	.07	.08	.07	.08	.07	.08
No. 2 color,150 vis., pale oil	.10	.11	.10	.11	.10	.11
No. 3 color, 200 vis., pale oil	.12	.13	.12	.13	.12	.13
No. 3 color, 500 vis., pale oil	.15	.16	.15	.16	.15	.16
No. 3½ color, 500 vis., pale oil	.16½	17½	.16½	.17½	.16½	.17½
No. 3½ color, 750 vis., pale oil	.22½	.23½	.22½	.23½	.22½	.23½
No. 4½ color, 1200 vis,, pale oil	.24½	.25½	.24½	.25½	.24½	.25½
No. 4½ color, 2000 vis., pale oil	.27	.28	.27	28	.27	.28
No. 1½ color, 150 vis., pale filtered	.20	.21	.20	.21	.20	.21
No. 2 color, 200 vis., pale filtered	.22	.23	.22	.23	.22½	.23½
No. 3 color, 300 vis., pale filtered	.25½	.26½	.25½	.26½	.25½	.26½
No. 3½ color, 500 vis., pale filtered	.30½	.31½	.30½	.31½	.31½	.32½
No. 3½ color, 750 vis., filtered	.39½	.40½	.39½	.40½	.38½	.39½
No. 5 to 6 color, 200 vis., red oil	.10	.11	.10	.11	.10	.11
No. 5 to 6 color, 300 vis., red oil	.12½	.13½	.12½	.13½	.12½	.13½
No. 5 to 6 color,, 500 vis., red oil	.15	.16	.15	.16	.15	.16
No. 5 to 6 color, 750 vis., red oil	.19	.20	.19	.20	.19	.20
CALIFORNIA—						
200 vis., 2½-3 color	.15	.17	.15	.17	:15	.17
300 vis., 3 -4 color	.16	.19	.16	.19	.16	.19
350 vis., 3½-4 color	.17½	.20	.17½	.20	.17½	.20
400 vis., 4 -4¼ color	.19	.20	.19	.20	.19	.20
Red Neutrals:						
200 vis., 4½-5 color	.13	.14	.13	.14	.13	.14
300 vis., 5 -5½ color	.14	.17	.14	.17	.14	.17
400 vis., 5 -6 color	.16	.18	.16	.18	.16	.18
500 vis., 6 -6½ color	.17	.18	.17	.18	.17	.18
600 vis., 6½ plus	.18	.21	.18	.21	.18	.21

NEW YORK DOMESTIC MARKET

	Aug. 12	Aug. 5	July 29
Motor Gasoline:			
Spot Gasoline, Bayonne	.10¾	.10¾	.13
V. M. P. Naphtha, in steel barrels	.18	.18	.18
Lubricating Oil (Industrial) at refinery, Bayonne, N. J.:			
Cylinder, extra light filtered, in barrels	.44½	.44½	.44½
Cylinder, light filtered, in barrels	.38	.38	.38
Cylinder, Bright Stock	.48½	.48½	.48½
Cylinder, steam refined (600)	.30½	.30½	.30½
Black, in bluk	.12	.12	.12
Bloomless, white, 30-31 gravity, 170 vis.	.44	.44	.44
Bloomless, 885 specific gravity	.16½	.16½	.16½
Red paraffin:			
170 viscosity	.22	.22	.22
212 viscosity	.23	.23	.23
265 viscosity	.24	.24	.24
295 viscosity	.26	.26	.26
Paraffin, 903 specific gravity	.31	.31	.31
*Fuel Oil:			
Bunker Oil, 14 plus:			
July 15, $1.75; 16, 1.75; 17, 1.75; 18, 1.75; 19, 1.75; 21, 1.75; 22, 1.75; 23, 1.75; 24, 1.75; 25, 1.75; 26, 1.75; 28, 1.75; 29, 1.75; 30, 1.75; 31, 1.75; August 1, 1.75; 2, 1.75, 3, 1.75; 4, 1.75.			
Diesel Oil, at refinery, gallon	.05	.05	.05
Furance Oil, tank wagon, gallon	.10	.10	.10
Gas Oil, delivered in New York	.06	.06	.06½
Wax, fully refined:			
120-122 a.m.p.	.05⅛	.05⅛	.05⅛
125-127 a.m.p.	.05¾	.05½	.05½
130-132 a.m.p.	.06¾	.07	.07
135-137 a.m.p.	.08	.08½	.08½

*Litherage, 6.5c a barrel extra.

NEW YORK EXPORT PRICES

	Aug. 12	Aug. 5	July 29
Motor Gasoline, in cases, gallon	.26.14	.26.14	.27.15
Motor Gasoline, U. S. Navy, spec. gallon	.12.25	.12.25	.13
Naphtha, 60° F., 59-61 spec. grav.	.13.25	.13.25	.13
Naphtha, 60° F., 63-66 spec. grav.	.14.5	.14.5	.16
Naphtha, 60° F., 66-68 spec. grav.	.16.0	.16.0	.17.50
Kerosene:			
Standard white, in bulk	.06½	.06½	.06½
Standard, white, in barrel, gallon	.13½	.13½	.13½
Standard white, in cases, gallon	.16.9	.16.9	.16.90
Water white, in cases, gallon	.07½	.07½	.07½
Water white, in barrels, gallon	.14½	.14½	.14½
Water white, in cases, gallon	.17.9	.17.9	.17.90

LOS ANGELES EXPORT PRICES

	Aug. 12		Aug. 5		July 29	
Kerosene:						
Water white	.04	.04½	.04	.04½	.04	.04½

CRUDE OIL PRICES

July 26.—Magnolia Petroleum Co. reduced Luling crude 10 cents. Owens Refining Co. reduced Rockdale-Minerva crudes 25 cents.

July 28.—Grayburg Oil Co. established four-gravity basis for Somerset, Texas, crudes with lower prices.

August 2.—Indian Refining Co. and Paragon Development Co. reduced western Kentucky crudes 5 cents. Corning crudes reduced 15 cents.

August 5.—Paragon Development Co. reduced Cumberland and Monroe County crudes 15 cents.

August 5.—Joseph Seep Purchasing Agency reduced all grades Pennsylvania crude 25 cents; Cabell, Somerset medium and Somerset light were reduced 15 cents; Ragland was reduced 10 cents.

August 8.—Paragon Development Co. and Indian Refining Co. reduced Western Kentucky crudes 10 cents.

August 9.—Major purchasing companies reduced Gulf Coast crudes 15 cents. Humble Oil & Refining Co. reduced Mexia, Powell, Currie and Archer and Wichita County crudes 15 cents. The Texas Co. met Humble prices in Mexia and Currie.

Arkansas and North Louisiana

Caddo, 38° and above	$1.35
35° to 37.9°	1.25
32 °to 34.9°	1.15
Below 32°	1.00
Homer, 35° and above	1.35
33° to 34.9°	1.25
31° to 32.9°	1.15
Below 31°	1.00
Haynesville, 33° and above	1.25
Below 33°	1.15
El Dorado, 32° and above	1.35
Below 33°	1.25
Bull Bayou, 38° and above	1.30
35° to 37.9°	1.15
32° to 34.9°	1.00
Cotton Valley	.80
De Soto	1.35
Crichton	1.15
Bellevue	1.25
Smackover, 26° and above	.95
25° to 25.9°	.80
24° to 24.9°	.70
Below 24°	.60
*Stephens, Ark.:	
Below 23°	.85
23° to 25.9°	1.05
26° to 27.9°	1.20
28° to 31°	1.25

*Posted by Atlantic Oil Producing Co.

Wyoming and Montana

Rock Creek, (Wyo.)	1.20
Salt Creek	1.10
Big Muddy	1.00
Mule Creek	.60
Grass Creek (light)	1.45
Elk Basin	1.45
Lance Creek	1.40
Osage	1.40
Cat Creek (Mont.)	1.45
Sunburst (Mont.)	.90
Lost Soldier	.78
Greybull & Torchlight	1.40
Hamilton Dome	1.05

Lander based on contracts covering entire production of fields.

Oklahoma, Kansas, North and Central Texas

Prairie Oil & Gas Co. and other major purchasing companies, except as noted:

Below 30°	$1.10
30° to 32.9°	1.25
33° and above	1.50
Magnolia Petroleum Co.:	
Below 28°	.90
28° to 30.9°	1.00
31° to 32.9°	1.10
33° and above	1.25
Corsicana Light	1.25
Corsicana Heavy	.90
Mexia	1.25
Powell	1.25
Thrall	1.00

Humble Oil & Refining Co.

Below 30°	$1.00
30° to 32.9°	1.20
33° to 35.9°	1.40
36° and above	1.30
Wichita and Archer Counties	1.35
Mexia	1.35
Powell	1.35
Currie	1.35

Gulf Coast

Grade "A"	$1.35
Grade "B"	1.15
Luling	.90
Laredo	.75
Milam County	1.35
Rockdale-Minerva (Milam County)	1.35
Above 39° gravity	1.80
Calliham (Live Oak-McMullen)	1.68½
*Somerset	
Under 28° gravity	.90
28° to 30.9°	1.00
31° to 32.9°	1.10
33° and above	1.25

*Posted by Grayburg Oil Co.

California

14° to 14.9°	$1.00
20° to 20.9°	1.01
21° to 21.9°	1.02
22° to 22.9°	1.03
23° to 23.9°	1.05
24° to 24.9°	1.07
25° to 25.9°	1.10
26° to 26.9°	1.13
27° to 27.9°	1.16
28° to 28.9°	1.19
29° to 29.9°	1.22
30° to 30.9°	1.25
31° to 31.9°	1.28
32° to 32.9°	1.31
33° to 33.9°	1.34
34° to 34.9°	1.37
35° gravity and above	1.40

Eastern States

Penna Grade Oil in New York Transit Lines	$3.00
Bradford District Oil in National Transit Lines	3.00
Penna Grade Oil in National Transit Lines	2.75
Penna Grade Oil in Southwest Pa. Pipe Line Lines	2.75
Penna Grade Oil in Eureka Pipe Line Lines	2.75
Penna Grade Oil in Buckeye Pipe Line Lines	2.75
Cabell Grade Oil in Eureka Pipe Line Lines	1.45
Corning Grade Oil in Buckeye Pipe Line Lines	1.75
Somerset Medium Oil in Cumberland Pipe Line Lines	1.55
Somerset Light Oil in Cumberland Pipe Line Lines	1.70
Ragland Grade Oil in Cumberland Pipe Line Lines	.90
Lima	1.83
Wooster	1.65
Illinois	1.62
Indiana	1.63
Princeton	1.62
Plymouth	1.00
Waterloo	1.10
†Oil Springs, Canada	2.30
†Petrolia, Canada	2.23
*Western Kentucky, 36° and above	1.40
*Western Kentucky, 33° to 35.9°	1.30
*Western Kentucky, 32.9° and below	1.20
Cumberland and Monroe Counties, (Ky.) (Paragon Dev. Co.)	1.90

†Plus Government bounty of 26¼c.

*Prices for Warren, Allen, Hancock, and Ohio Counties by Indiana Refining Co. Prices for Warren and Simpson Counties by Paragon Development Co.

Mexican Crude

*Tuxpam (f.o.b. Mexican ports)	$1.40
†Panuco (f.o.b. Mexican ports)	1.15
Tuxpam (New York)	1.97
Panuco (New York)	1.57

*Plus 31.92c tax. †Plus 17.40c tax. Prices based on contracts.

Progress Toward Restoring Balance

This Year, So Far, Has Shown Marked Improvement Over 1923 in the Statistical Position of the Petroleum Industry

By N. O. Fanning

NEW YORK, August 11.—Despite the hopes of many oil men, it now appears that 1924 will be a year of low prices for crude oil and refined products compared with prices in 1920 and 1922. The reasons are obvious. Production is exceeding consumption and competition has resulted in marking down of quotations already all over the country.

The fact is that much progress has been made this year toward restoring the balance between supply and demand for oil products. Steady progress is now being made, and if it can be maintained, next year should bring the oil business close to prosperity. This depends, of course, on continuance of the growth of domestic and foreign consumption as well as upon the success of efforts to curtail production.

The oil business ever since 1920 has been anticipating a repetition of the situation which existed in that year, namely, a shortage of oil. Four years have passed and it does not seem that the prices of that year will be duplicated for a long time to come. However, the fact that 1924 so far has resulted in marked improvement over 1923 in the statistical position of the oil industry leads to the belief that 1923 marked the low point in the cycle which represented a decline of three years, and that the crest will be reached either in 1925 or 1926. Certainly, appearances are that the worst of the depression in oil has passed despite the downward tendency of prices at present.

Effect of Low Prices

The fact that the decline in prices since 1920 resulted in stimulating consumption far above the 1920 level is a significant fact. For many years it has been obvious that the world would find many new uses for petroleum products, but the talk of a shortage and advancing prices, such as occurred in 1919 and 1920, restricted the spread of consumption materially. The reverse situation resulting from overproduction has stimulated consumption far beyond expectations.

Statisticians conversant with the oil industry, while realizing the fact that the oil business, like others, is subject to periods of depression and periods of prosperity, have failed in some cases to take into account the fact that the oil business has grown considerably and that for this reason the length of the cycles from prosperity to depression and back are apt to be longer in duration than formerly.

For three years in succession now the oil business has begun the new year with high hopes, only to find these hopes unrealized at the close of the year. This has led many to believe that oil, like water, can be obtained at will in any quantities and that the possibility of a shortage is extremely remote, in view of the fact that despite consistently low prices production has kept on increasing.

As for consumption, there has been a natural gain which has been stimulated by low prices, throughout the period since 1920. In 1923 domestic consumption was 719,739,000 barrels, as against 592,032,000 barrels in 1922 and 526,032,000 barrels in 1921. The increase in export trade is even more remarkable, and can most probably be attributed to the fact that lower prices are more appreciated abroad than at home. Exports in 1923 were 17,400,000 barrels, against 10,153,000 barrels in 1922 and 8,940,000 barrels in 1921. Here is a gain of 100 per cent in the export trade in approximately two years.

Both domestic and export consumption in 1924 have been in advance of 1923. There is no indication of a break and as the price tendency is soft, consumption is apt to be further stimulated during the remainder of the year.

The Supply

Although inherently the balance between supply and demand in the oil business seems far from having been restored, 1924 is a pivotal year in that all indications point to the fact that domestic crude oil production will be smaller than in 1923, which is the first year since 1906 that it has happened. In 1906 production was 126,494,000 barrels, against 135,718,000 barrels in 1905. The decline in 1906 was short lived and was followed by a new era of increasing production.

If 1924 production actually is below that of 1923, it will also probably be a temporary lull. But it is likely to mark the turning point in the oil situation nevertheless. It may be difficult, once the course of production is definitely downward, to stem the decline.

Incidentally, there was a turn in the production of oil in Mexico in 1923. Imports into the United States during 1923 amounted to 82,015,000 bbls., against 127,308,000 bbls. in 1922, reflecting smaller Mexican production. Mexican production may show a further drop this year, and with American production also lower, a change for the better in the world situation seems inevitable.

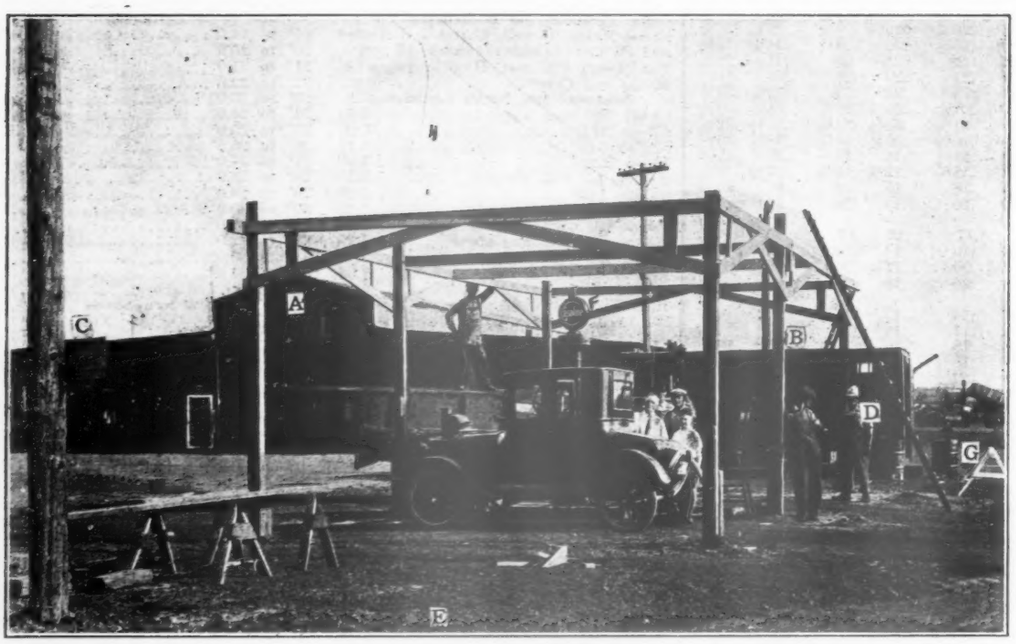
Record Since 1918

The following table shows production, consumption and stocks of crude oil by years since 1918 (United States Geological Survey figures, in barrels):

	1923	1922	1921
Prod.	725,702,000	556,531,000	472,183,000
Imports	82,015,000	127,308,000	125,364,000
Withdrawn from stk	.....	.....	.....
	807,717,000	684,839,000	597,547,000
Dm. Con.	710,739,000	592,032,000	526,032,000

(Continued on Page 144)

GOVERNOR BRYAN'S GASOLINE STATION AT LINCOLN, NEB.



The Governor's card on pole "C" reads as follows: "Open Week Days, from 7:30 to 8:30. Sundays and Holidays 8:00 to 5:00. Gas, 15. Oil, 20c per quart; 70c per gal."

It will be remembered by those who followed the later proceedings of the Democratic National Convention that Governor Charles W. Bryan of Nebraska, candidate for Vice-President, assured the admirers he had made in the East of the practical steps he was taking in Nebraska to exterminate the Standard Oil Company and other trusts now bleeding the farmer in the price of gasoline. L. L. Coryell, Sr., of Lincoln, Neb., president of the Nebraska Independent Oil Men's Association, assumes to criticize Governor Bryan's oil venture in a manner which the Wall Street Journal says can only be described as ribald.

This oil distributing agency designed to give the farmer cheap gasoline and eliminate the middleman's profits, consists of, it appears, a gasoline service station owned and operated by the great State of Nebraska. Mr. Coryell is good enough to enclose a photograph of this extensive plant. The accompanying description of this utility for the farmers, situated just 3 miles from the heart of the city of Lincoln, should be sufficiently illuminating.

Lettering the picture, A represents an old barn situated along the railroad right of way on ground belonging to the State, previously used to shelter highway trucks, but now converted to nobler purposes. B is a venerable bunk car, formerly used for sleeping in convict work on the highway, but now promoted to the Governor's private oil office. C, attached to a convenient telegraph pole, is the Governor's business sign, economically converted from the bottom of a disused cracker box. D gives the impressive figure of one of the Governor's clerks. E is the front yard of this palatial establishment, apparently a mudhole partially filled with cinders. F is a pump bought by the Governor to serve the downtrodden farmers and paid for, incidentally, with money which the legislature had appropriated for good roads. G is an old oil barrel from which the oil is taken direct. H, which is not nearly so majestic as it sounds, is the Governor's electric chandelier.

To achieve the economy desired the oil is piped direct from the railroad right of way to the Bryan pump. Truck owners have been receiving 2 cents a gallon for carting the oil, where it was not done by the independent companies. Farmers mostly buy their gasoline in five-gallon lots and therefore save a dime every time they are willing to drive the necessary miles to the State's service station.

It seems a modest equipment to bust Mr. Doheny and Mr. Rockefeller, but its moral grandeur is above envious comment.

Double Leg Derricks—

how to make them

A PRACTICE which is gaining favor in many fields is to buy a light Moore derrick with a set of reinforcing legs which are used while drilling is going on. A set of special clamps are furnished with the derrick for this purpose. The strength of the derrick may easily be doubled by the use of these reinforcing legs.

When drilling is completed, the reinforcing legs and clamps are removed and used elsewhere, and the light single-leg derrick is left over the well for pumping and cleaning out. Later, if it is decided to drill deeper, the reinforcing legs may again be attached.

The arrangement is convenient and economical as one set of reinforcing legs with clamps may be used time and again, for drilling an indefinite number of wells.

This and much other information about steel derricks and steel rigs, is contained in the new Moore Catalog just out.

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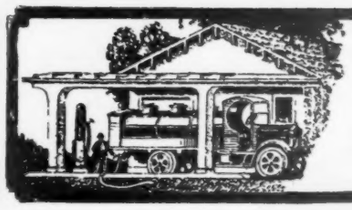


TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, Aug. 12

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
†100 gals. or more	14.25	...	18.0	11.9

Tank wagon prices on April 10, 1922; g. up 1¼c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 6, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1¼c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c; July 30, g. and k. down 1c.

Decatur, Ill.	16.2	...	18.2	11.5
East St. Louis	15.1	...	17.35	10.6
Joliet	16.4	...	18.4	11.7
Peoria	16.2	...	18.2	11.5
Quincy	16.2	...	18.2	11.3
Davenport, Ia.	15.5	...	18.5	11.9
Des Moines	14.5	...	16.5	11.9
Keokuk	16.5	...	18.5	11.9
Sioux City	14.0	...	18.0	11.5
Duluth, Minn.	17.2	...	19.2	12.6
Minneapolis	12.0	...	19.2	12.6
La Crosse, Wis.	17.2	...	19.2	12.4
Milwaukee	15.0	...	18.0	11.3
Madison	16.3	...	18.3	11.5
Detroit, Mich.	16.8	...	18.8	12.2
Grand Rapids	16.7	...	18.7	12.1
Saginaw	16.9	...	18.9	12.3
Evansville, Ind.	18.0	2.0	20.0	11.5
Fort Wayne	18.4	2.0	20.4	11.9
Indianapolis	18.2	2.0	20.2	11.7
South Bend	18.4	2.0	20.4	11.9
Fargo, N. D.	18.6	1.0	20.6	14.6
Huron, S. D.	18.0	2.0	20.0	13.1
Sioux Falls	18.0	2.0	20.0	12.6
*Kansas City, Mo.	12.9	1.0	16.9	10.3
Springfield	16.8	...	18.8	11.2
*St. Louis	15.6	0.5	18.9	11.0
*St. Joseph	16.0	0.5	18.0	10.9
Wichita, Kans.	15.3	...	17.8	10.8
Bartlesville, Okla.	16.5	2.5	19.4	9.9

*City tax.
†Tank wagon price on less than 100 gallons, 16c.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
Newark, N. J.	17.5	...	....	13.0
Atlantic City	17.5	...	....	13.0
Annapolis, Md.	19.0	2.0	21.0	12.5
Baltimore	19.0	2.0	21.0	12.5
Cumberland	19.0	20.	21.0	12.5
Washington, D. C.	19.0	2.0	21.0	12.5
Norfolk, Va.	20.5	3.0	22.5	13.5
Petersburg	20.5	3.0	22.5	13.5
Danville	20.5	3.0	22.5	13.5
Richmond	20.5	3.0	22.5	13.5
Roanoke	20.5	3.0	22.5	13.5
Keyser, W. Va.	19.0	2.0	....	13.5
Charleston	19.0	2.0	....	13.5
Parkersburg	19.0	2.0	....	13.5
Wheeling	19.0	2.0	....	13.5
Charlotte, N. C.	20.0	3.0	....	13.5
Hickory	20.0	3.0	....	13.5
Mt. Airy	20.0	3.0	....	13.5
Salisbury	20.0	3.0	....	13.5
Charleston, S. C.	20.5	3.0	....	14.0
Columbia	20.5	3.0	....	14.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
Atlanta, Ga.	20.0	3.0	24.0	14.0
Augusta	22.0	3.0	24.0	14.5
Macon	22.0	3.0	24.0	15.5
Savannah	18.0	3.0	20.0	14.0
Birmingham, Ala.	20.0	2.0	22.0	15.5
Mobile	19.0	2.0	21.0	12.5
*Montgomery	21.0	3.0	23.0	16.5
Clarksdale, Miss.	19.0	3.0	22.0	13.0
Jackson	19.0	3.0	22.0	10.0
Natchez	18.5	3.0	21.5	12.5
Vicksburg	18.5	3.0	21.5	12.5
Jacksonville, Fla.	20.0	3.0	22.0	14.0
Miami	22.0	3.0	24.0	15.5
Pensacola	20.0	3.0	22.0	14.5
Tampa	20.0	3.0	22.0	14.0
Lexington, Ky.	19.0	3.0	22.0	14.0
Covington	17.0	3.0	20.0	14.0
Louisville	16.0	3.0	18.0	12.0

*In addition to State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene.

PACIFIC COAST DISTRICT

Stadard Oil Co. (California)

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
San Francisco	17.0	2.0	20.0	15.5
Los Angeles	16.0	2.0	19.0	15.5
Fresno	17.5	2.0	20.5	17.5
Reno, Nev.	20.5	2.0	23.5	19.0
Portland, Ore.	19.0	3.0	22.0	16.5
Seattle, Wash.	18.0	3.0	21.0	16.5
Tacoma	18.0	3.0	21.0	16.5
Spokane	22.0	3.0	25.0	20.5
Phoenix, Ariz.	23.0	3.0	26.0	21.5

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
Albany, N. Y.	17.0	...	21.5	13.0
*New York	19.0	...	22.0	13.0
Buffalo	15.5	...	18.5	13.0
Rochester	15.0	...	19.0	12.0
Syracuse	16.0	...	21.0	11.0
Boston, Mass.	17.0	...	20.0	13.0
Providence, R. I.	18.0	...	22.5	13.0
Augusta, Me.	19.0	1.0	21.5	13.0
Manchester, N. H.	19.0	2.0	21.5	13.0
Burlington, Vt.	19.0	1.0	21.5	13.0

*Price in steel barrels.

ROCKY MOUNTAIN DISTRICT

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
Denver, Colo.	18.0	2.0	20.0	13.5
Glenwood Spgs.	22.0	2.0	....	17.5
Pueblo	18.0	2.0	20.0	14.5
Billings, Mont.	20.5	2.0	22.5	14.5
Butte	22.0	2.0	24.0	15.0
Great Falls	22.0	2.0	24.0	15.0
Helena	22.0	2.0	24.0	15.0
Miles City	21.5	2.0	23.5	15.5
Boise, Idaho	23.5	2.0	25.5	19.0
Salt Lake, Utah	22.0	2.0	24.0	17.0
Ogden	22.0	2.5	24.0	17.0
Basin, Wyo.	19.0	1.0	....	14.0
Casper	19.0	1.0	19.0	12.0
Cheyenne	18.5	1.0	20.5	13.5
Cody	20.0	1.0	....	15.0
Lander	19.0	1.0	....	14.0
Albuquerque, N. M.	20.0	1.0	22.0	16.5

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
*Pittsburgh, Pa.	18.0	...	23.0	14.0
*Philadelphia	18.0	...	23.0	14.0
*Scranton	18.0	...	23.0	14.0
*Allentown	18.0	...	23.0	14.0
*Altoona	18.0	...	23.0	14.0
Dover, Del.	20.0	2.0	23.0	14.0
Wilmington	20.0	2.0	23.0	14.0
Providence, R. I.	20.0	...	23.0	14.0
Springfield, Mass	20.0	...	23.0	14.0
Worcester	20.0	...	23.0	14.0
Boston	20.0	...	23.0	14.0
Hartford, Conn.	21.0	...	24.0	14.0
New Haven	21.0	1.0	24.0	14.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
Omaha	11.0	...	13.0	11.5
Crawford	17.0	...	....	12.25
McCook	15.0	...	17.0	13.0
Norfolk	14.75	...	16.75*	12.0
North Platte	16.0	...	15.0	12 75
Scotts Bluff	17.25	...	19.25	12.25

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
Dallas, Tex.	12.0	1.0	16.0	10.0
Fort Worth	13 0	1.0	16.0	11.0
Houston	16.0	1.0	19.0	12.0
San Antonio	14.0	1.0	17.0	10.0
El Paso	12.0	1.0	14 0	12.0
Muskogee, Okla.	16.0	2.5	21.0	11.0
Oklahoma City	15.5	2.5	20.5	10.0
Tulsa	13.0	2.5	18.0	10 0
Ft. Smith, Ark.	17.0	4.0	20.0	12.0
Little Rock	20.0	4.0	23.0	13.0
Texarkana	19 0	4.0	22.0	13.0

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
New Orleans, La.	15.5	2.0	18.5	9.0
Alexandria	17.5	2.0	20.5	13.0
Baton Rouge	16.0	2.0	19.0	11.5
Lake Charles	17.5	2.0	20.5	13.0
Shreveport	17.5	2.0	20.5	13.0
Memphis, Tenn.	16.0	2.0	18.0	14.0
Chattanooga	17.0	2.0	19.0	14.5
Knoxville	19.5	2.0	21.5	15.0
Nashville	18.5	2.0	20.5	13.5
Bristol	20.0	2.0	22.0	13.5
Little Rock, Ark.	20.0	4.0	22.0	13.0

OHIO

Standard Oil Co. (Ohio)

	Gasoline Tank wagon	Gasoline Incids tax of	Gasoline Service station	Kero. Tank wagon
All Ohio Points	17.0	...	19.0	14.0

TANK WAGON CHANGES

July 30.—Magnolia Petroleum Co. reduced kerosene tank wagon prices at Oklahoma City 1 cent.

August 2.—Magnolia Petroleum Co. reduced gasoline tank wagon and service station 2 cents at Dallas and 1 cent at Fort Worth.

August 4.—Continental Oil Co. reduced gasoline tank wagon and service station prices in entire territory 1 cent with the exception of Albuquerque, N. M.

August 5.—Standard Oil Co. of Kentucky reduced gasoline tank wagon and service station and kerosene tank wagon prices 1 cent at Lexington, Ky., and kerosene tank wagon price 1 cent at Covington, Ky.

August 10.—Standard Oil Co. of Ohio reduced gasoline tank wagon and service station price 1 cent in Ohio.

Note.—Reports from the Standard of Indiana territory show reductions not reported in the previous issue of The Oil and Gas Journal. The changes are included in the table of this issue and were effective July 30, the date of the last general change in the Standard of Indiana territory.

Late Fields

The production of Oklahoma on Tuesday, August 12, was 528,125 bbls. An error in addition caused it to be said on Page 38 that production on Saturday, August 9, was 528,125 bbls., when it should have been given as 518,125 bbls. Since Saturday, the Tonkawa Field has increased its production from 51,000 bbls. to 61,000 bbls., the new production coming from the 9 wells in the deep sand, which on Monday were reported to have produced 31,475 bbls. and on Tuesday a little over 34,000 bbls. On Monday the production statement showed Pennok Oil Co. had two aggregating 3,882 bbls., flowing into the same tank; T. B. Slick, 1 well, 2,570 bbls.; Comar Oil Co., 3 wells, 9,135 bbls.; Wentz Oil Corp., 1 well, 7,388 bbls.; Blackwell Oil & Gas Co., 1 well, 4,800 bbls.; Gypsy Oil Co., 1 well, 3,700 bbls. All are producing high gravity oil and all but one from the Wilcox sand, one of the Comar Oil Co.'s wells getting its oil in a higher level, believed by some to be the Burgess sand.

The Comar Oil Co.'s No. 1-W Endicott, SE cor. NE SE, Section 34-25-1w, started off at 4,200 bbls. from sand at 3,980 feet, drilled in 7 feet; the same company's test on the W. L. Endicott farm in SW cor. NW SW, Section 35-25-1w, started at 2,200 bbls. from sand topped at 3,925 feet. Pennok Oil Co.'s No. 4-B Endicott, NE cor. SE NE, Section 34-35-1w, was estimated at 50 bbls. an hour at 4,013-15½ feet. The Pennok Oil Co.'s No. 1-D Endicott, NE cor. SE SE, Section 34-25-1w had sand at 4,076-85 feet and had 200 feet of oil in the hole. The rig was blown down and operations thus delayed.

The Transcontinental Oil Co.'s No. 1 Coyarka, SW cor. SE SW, Section 6-14-7, Stroud Field, Creek County, got the top of sand at 4,132 feet and was flowing 25 bbls. an hour.

The Papoose Oil Co.'s No. 3 Tiger, C SW SE NE, Section 4-9-9, was good for 600 bbls. in sand at 3,302-11 feet.

COLORADO

DENVER, Colo., Aug. 11.—The Whittaker well of the Union Oil Co. of California at Fort Collins flowed by heads at the rate of 700 bbls. to 1,000 bbls. in a short test through bradenhead between 6- and 8-inch. It looks good to reliable scouts.

The Moffat Field well at Craig, of the Texas-Transcontinental Companies, was on Monday making 2,200 bbls. net oil, water 12 per cent. The Texas Co.'s No. 1 Freeman has been delayed by pipe trouble at 4,014 feet. The Transcontinental Co.'s Beaver Creek well has been delayed near the sand. The Wellington Dome gasser is still burning.

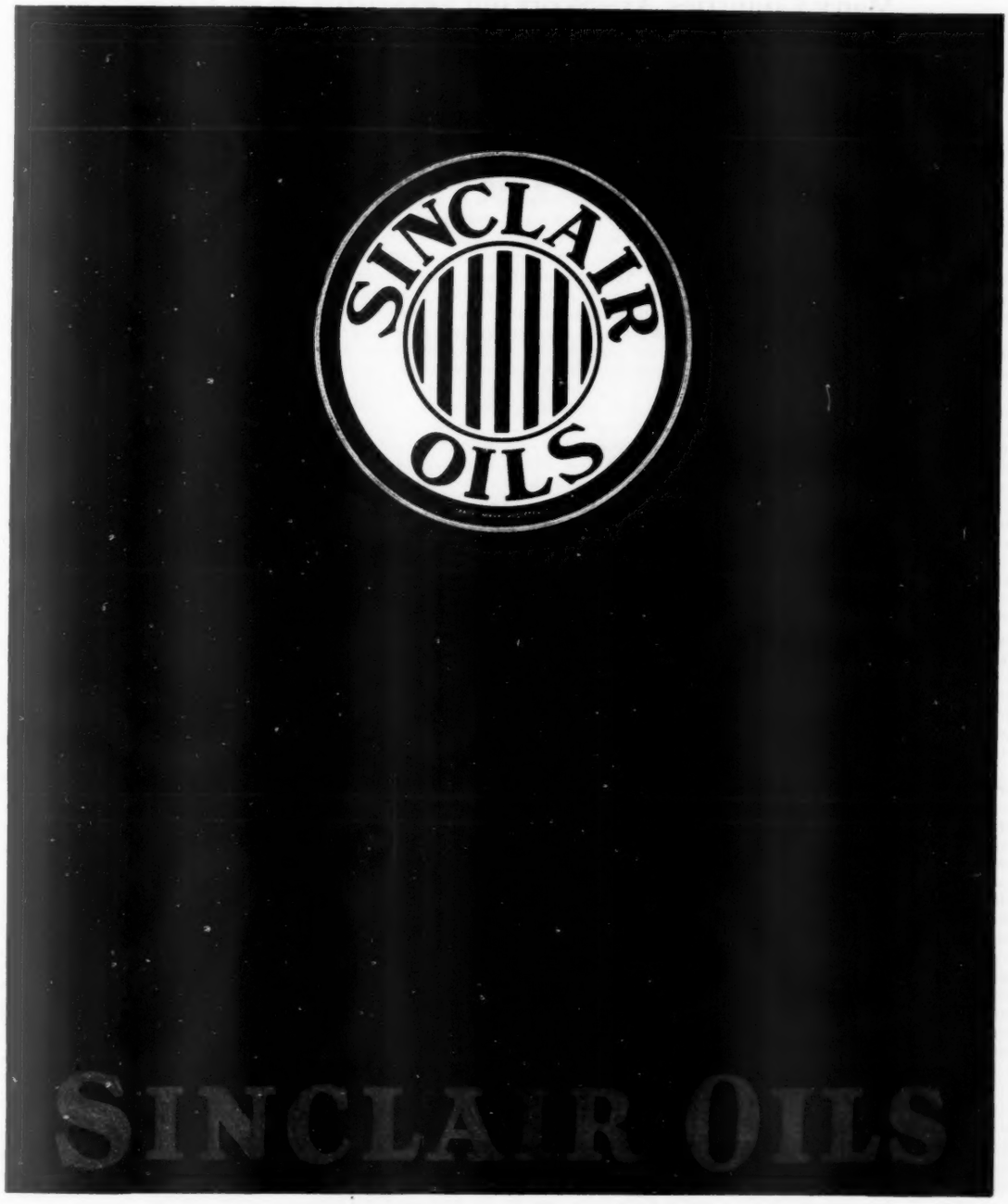
MID-CONTINENT REFINERY OPERATIONS FOR WEEK ENDING AUGUST 2

A new low period for the season in gasoline stocks was reached by Mid-Continent refiners, when the regular report of the Western Petroleum Refiners' Association for the week ending August 2 showed that the 141 reporting refiners had only 116,739,296 gallons in storage, a decrease of 7,041,062 gallons or 5.69 per cent during the week. Gasoline output decreased 393,702 gallons or 1.41 per cent and an increase of 8.81 per cent in gasoline shipments aided in the decrease in stocks. Kerosene output increased 719,319 gallons or 10.78 per cent; shipments increased 5.47 per cent and stocks increased 324,968 gallons or 1.43 per cent to a total of 23,041,297 gallons. Gas and fuel oil output decreased 4.19 per cent or 1,389,135 gallons; shipments increased 11.09 per cent and stocks decreased 1,701,959 gallons or 1.56 per cent to a total of 107,229,553 gallons. Crude runs to stills showed an astonishing decrease, dropping off a total of 97,863 barrels or 5.16 per cent to a total of 1,797,813 barrels.

CONSOLIDATED STATEMENT COVERING MID-CONTINENT REFINERIES FOR THE WEEK ENDING 7 A. M., JULY 26, 1924

	Kansas	Oklahoma	North and Central Texas	North Louisiana and Arkansas	Mid-Continent Total	July 26, '24	July 5, '24	June 7, '24
Number of refineries reporting	27	62	42	10	141	141	141	140
Daily still capacity, barrels	102,600	265,700	105,550	25,000	498,850	498,850	498,850	482,850
Combined operations during week—								
Materials to stills, barrels—								
Crude, item A	395,174	722,159	341,910	86,581	1,545,824	1,645,439	1,651,655	1,524,432
Other oils (see note), item B	34,698	146,684	56,437	14,170	251,989	250,237	205,465	201,902
Total	429,872	868,843	398,247	100,751	1,797,813	1,895,676	1,857,120	1,726,335
Output, gallons—								
Gasoline, item C	7,023,848	13,548,141	6,107,174	917,275	27,596,438	27,990,140	28,056,264	25,199,332
Kerosene, item D	2,132,191	3,726,150	1,229,262	301,996	7,389,599	6,670,280	5,989,421	5,732,285
Gas and fuel oil, item E	7,868,729	14,102,179	7,811,464	1,971,329	31,753,711	33,142,846	34,759,193	32,151,159
Stocks on hand at close of week:								
Materials for stills, barrels—								
Crude, item J	394,174	2,842,472	1,106,901	816,359	6,159,906	6,457,599	6,796,826	7,142,139
Other oils (see note) item K	111,178	1,188,957	234,798	510,762	2,045,685	2,119,479	2,161,020	1,984,362
Finished products, gallons—								
Gasoline, item L	14,060,706	86,651,056	15,513,111	514,423	116,739,296	123,780,358	124,101,364	139,741,209
Kerosene, item M	2,966,402	12,442,595	5,486,911	145,388	23,041,297	22,716,329	21,089,948	17,505,411
Gas and fuel oil, item N	13,159,914	76,262,212	14,419,309	3,388,118	107,229,553	108,931,512	104,023,010	97,730,482

Note: Other oils includes all oils other than crude which are either purchased or withdrawn from stocks and run to stills during the week. The total of items A and B is, therefore, the net quantity of materials consumed by the reporting refineries in producing the quantities of products shown as the result of the operations of the refineries during the week. Item K includes all stocks of oils, other than crude held for further refining.



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Motor Fuel Supply Interests Europe

Many Countries Are Working Feverishly in an Effort to Obtain Sources for Use in Time of an Emergency

By Special Correspondent

PARIS, France, August 1.—Among the countries of the European Continent which do not enjoy the privilege of having an oil supply of their own, there is hardly any which does not follow up with the utmost interest the development of the oil industry of America.

As is known, about 75 per cent of Europe's oil requirements have been regularly provided for by the American oil industry and the various Governments as well as the leaders of the many industries, which would almost be ruined should they happen to be deprived of an adequate liquid fuel supply, do not fail to be intensely interested in the eventual results of the recommendations made by the various committees which, in America, have been entrusted with the task of finding the best means to preserve America's still existing oil reserves, and, also, to maintain gasoline prices to the domestic consumers at their lowest prices. No one dares even to guess at what will come out of the recommendations thus submitted to the United States Government, but, at the same time, everybody seems to realize that the time may come when, in view of her ever increasing consumption, and eventual decreasing production, which many well known American experts seem to expect within a very few years, America will see fit to restrict her oil exports.

Many Restrict Exports

Everybody knows out here that, as early as 1920 the Federal Trade Commission suggested that an embargo on gasoline was necessary in order that domestic consumption's needs may keep well supplied at low prices; that in 1923 the La Follette recommendations made by the committee of the Senate Committee of Manufacturers included one for restriction on exports and that the recent report of the Federal Trade Commission is likely to include recommendations of the same kind.

In view of this and of the fact that, since the beginning of the twentieth century, many events have shown the utmost necessity for a modern country of having her own liquid fuel supply without being dependent upon other countries, which may well be unreachable in time of emergency, one is not to wonder why most every European country, whether big or small, is making every effort to get an independent supply of liquid fuel.

To reach this end the various countries do not all direct their efforts in the same direction. Their efforts are great and many and deserve to be mentioned as well as the results which have already been achieved.

England

First of all one must mention England, whose foresight in the matter is well known. England's oil policy was originated before the late war by Mr. Churchill and confirmed in 1918 by the creation, due to Mr. Lloyd George at the time England's Prime Minister, of a private cabinet committee, called "Petroleum Imperial Policy Committee," the object of which was to increase great Britain's participation in the control and development of the existing and probable oil fields of the world. England's wonderful success in this direction is well known, her national oil companies, supported or controlled by her Government, sent out missions which covered most every corner of the world and attained extremely satisfactory results.

A good many of the fields now controlled by English oil companies have yet to be developed, but, considering only the territory controlled by the Anglo Persian Oil Company in Persia, where the proved oil fields are very prolific and there are encouraging signs of oil over large areas which have yet to be investigated, there is litti doubt that, in the near future, Persia will be able to produce all the petroleum required by the United Kingdom, which controls a sufficient tonnage of oil tankers, well protected by a powerful fleet of warships to easily transport the raw material from Persia to Swansea, where one of the largest refineries of the world has been built in order to refine it.

Searching for Substitute

In spite of this England does not overlook the most important question of finding a substitute still more under her own control.

Scientists are very busy on the elucidation of this problem. The question of the carbonization of coal at a low temperature is very closely examined by such organizations as the Fuel Research Board, which belongs to the Department of Scientific and Industrial Research of the British Government. Some time ago Mr. W. R. Ormondy, member of the Board of the London Institution of Petroleum Technologists, addressing the members of the Society of Motor Manufacturers and Traders stated that the problem of the carbonization of coal and conversion of coal into liquid fuel was most important to the country's safety, that up to date £800,000 had been spent in experimental and research work and nothing must be neglected in order to get prompt and satisfactory results.

Much work has also been done since 1914, under the leadership of the Alcohol Motor Fuel Committee of the Imperial Motor Transport Council, in order to find a way to manufacture industrial or power alcohol in commercial and paying quantities, as for a successful commercial exploitation it is not only necessary to have a substance from which alcohol can be made, but also one from which it is possible to make money.

The Use of Alcohol

The various inquiries to which the chief English distillery interests proceeded in the United Kingdom and overseas were rather disappointing, but, after a stay of several months in Burmah, during which he closely investigated the matter, with the financial help of the Burmah Oil Company, Sir Charles H. Bedford, one of the most distinguished power-alcohol specialists of England, was able to arrive at the conclusion that, from a commercial point of view, good and satisfactory results could be expected from the use of rice straws and several other raw materials obtainable locally and at various times of the year in the requisite amounts, the manufacture of paper and alcohol being worked simultaneously.

The London General Omnibus Company has been using for quite a while a mixture of alcohol and benzol. Alcohol as a substitute of gasoline is also used to some extent in the Union of South Africa and Australia, where "Natalite," a mixture of alcohol and ether, has given very satisfactory results.

France

Contrary to what is taking place in England, France, who does not dispose of a fleet powerful enough to give her the control of the seas which would have to be used by the tank steamers necessary to keep her well supplied at all times with liquid fuel, does not seem to be particularly interested in getting the control of prospective oil fields located overseas. For the present time France's main object in the matter seems to be to increase the production of her only oil field, Pechelbronn, to try and locate new oil fields on her own territory, and, above all, to find gasoline substitutes available on her own soil. Lately, laws have been enacted obliging coal ,gas and coke manufacturers to recover as much benzol as possible, and gasoline importers to buy an amount of dehydrated alcohol corresponding to 10 per cent of the amount of gasoline imported by them, this alcohol having to be mixed with gasoline, in a proration of fifty-fifty, in order to be sold as 'Carburant National." However, there is not enough of a national benzol production to help in any way France to become independent of foreign countries, considering also that benzol is being used by quite a number of industries other than the motor transport industry.

As to the so-called "Carburant National," mixture of gasoline and alcohol, the Government service which deals specially with the distribution of the alcohol to the importers of gasoline, is still unable to supply more than 5 per cent of the quantity necessary. French scientists are also considering the question of carbonization at a low temperature, as well as various catalytic processes, and the Bergius process of liquification of coal which has been taken up, in France, by the firm of Schneider & Company.

What seems, however, to be the best chance France has to become independent of foreign countries for her liquid fuel supplies, is represented by the recent improvement of what French scientists call "gazogenes," i.e. charcoal gas producers. Various French automobile firms, Lorraine-Dietrich, Berliet and Renault, have come out lately with very interesting devices to manufacture charcoal-gas which introduced in the motors in the very same way as gasoline vapors gives exactly the same results. According to reports 1,000 tons of charcoal would produce enough charcoal gas to replace 700 tons of gasoline; in other words, since France's annual consumption of gasoline amounts to about 700.000 tons of gas gasoline, it would be necessary for her to have 1,000,000 tons of charcoal in order not to use any gasoline which is far from being over her charcoal production's capacity.

The French Ministry of war has taken up the question of the so-called "gazogenes" in such a way that it has been claimed that very soon all the trucks used by the French army will be equipped with gazogenes. Moreover, the question is very closely considered by other departments of the French Government, and more particularly, by the central committee of mechanical culture, and one may expect very interesting news on the subject in due time.

Germany

Of all the European countries Germany is undoubtedly the one who has achieved the best results in her efforts to get an independent liquid fuel supply.

Before the late war, Germany was already and soundly established in the oil fields of Rumania and Galicia. Her oil companies were very actively looking for the control of foreign oil fields and were already in direct competition with other foreign interests in such countries as Turkey, where German diplomatic and private activities regarding the Bagdad Railway and the Mesopotamian oil fields were partly successful.

The late war having stopped the German oil companies' efforts in foreign territories, they started to develop a domestic liquid fuel industry which was very prompt in giving good results.

The utilization of lignite in Germany is on a gigantic scale compared to the use made of similar material in any other countries of the world. The distillation of bituminous lignite and the carbonization of coal have been developed to such an extent that they are now playing a very important part in Germany's liquid fuel supply.

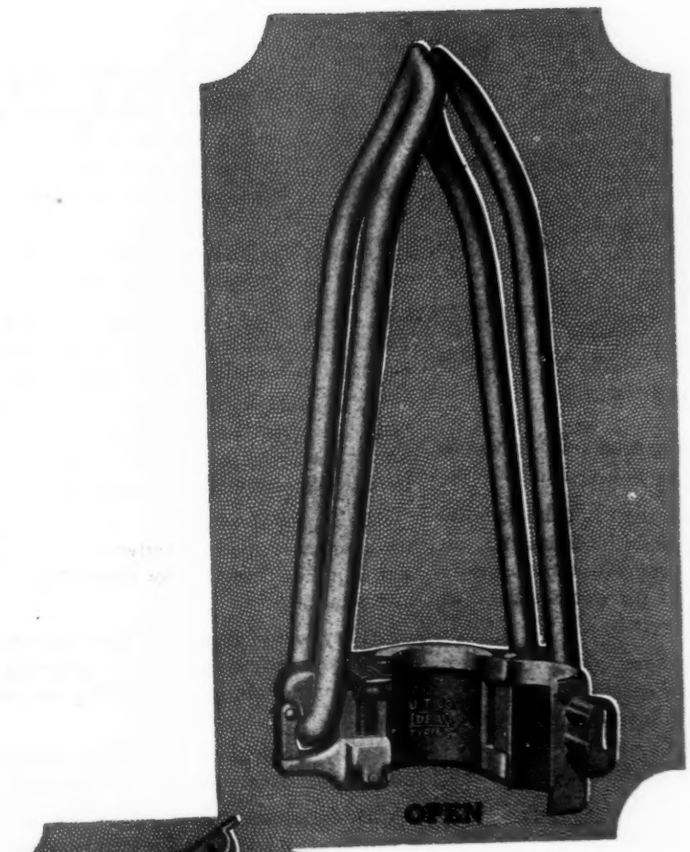
Much has been said also concerning the famous Bergius process of hydrogenation and liquefaction of coal. Although much admired as a scientific discovery, it does not seem that Bergius process has yet become a really practical and commercial device. One must not forget that Bergius discovery took place some time in 1913, that is before the war broke out and had the discovery been a practical one, it is useless to say that the German Government would have made a very extensive use of it when the Allies cut Germany out of her oil supply. However, it would seem that Bergius coal-liquefaction process, like most others of a technical character, is

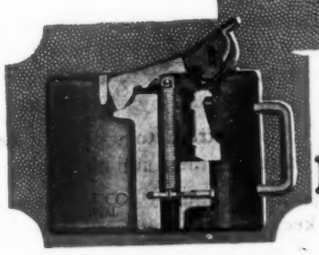
(Continued on Page 140)

IDEAL

TYPE "C"

SAFETY ELEVATOR





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BIG BUSINESS

Why is it that the mere mention of "Big Business" makes so many otherwise sensible Americans talk like bolshevists?

Do they ever stop to think what big business has done to build up this country, to develop its resources, expand its industries, increase its business, create and maintain the progress and prosperity which has made the United States the envy of the world and which every single one of us has shared.

What is big business any way but the doing of big things in a big way? It has been the size of American enterprises, the magnitude of our undertakings, the orderly and energetic prosecution of mammoth tasks, that has evoked the world's admiration and won us the place we hold. We have needed big business to tackle big jobs.

When the great war strained the resources of modern industry to their utmost it was American capacity for dealing with colossal labors that enabled us to supply the material needs of the embattled nations and after the conflict to undertake the succor of whole peoples.

Six years of ineffective effort for reconstruction in Europe have toiled towards the point where American counsel has paved a path to stability, a path, moreover, mapped out by the constructive ability of that "Big Business" so many affect to condemn.

Moreover it was our capacity for big business that enabled us to finance not only ourselves but our associates in the war and to readjust our affairs since with less commercial disturbance, unemployment and fiscal embarrassment than any of the greatest powers.

If we had had no big business we should have needed to create it to accomplish what America has been able to do in the past 25 years.

What is called "Big Business" has grown because there was need for the service it performed. It could not have grown to its present proportions without a demand for its services. Its results justify it.

Few people think of the 5 and 10-cent stores as "Big Business," yet these companies have grown to be among the outstanding commercial corporations of the country because they met and catered to a universal need.

Suppose these thousands of stores were run, if indeed they could have opened at all, as separate establishments buying their supplies as they could, could they have offered the same variety and prices made possible by combination which enabled them to have their own factories and output under their own control at all times?

The great stores have brought together a variety and volume of merchandise that would have been impossible for the old time merchants to have handled.

The chain stores and the mail order houses have made supplies available throughout the land that could have been secured only by tedious processes and at vastly greater cost.

The packing industry has been able to maintain a variety and constancy of supply in all seasons that would have been impracticable without big business methods.

There is not the slightest evidence that without big business methods we would find the cost of living less but, on the contrary, it would be vastly more if we were deprived of the benefits of systematic and coordinated effort, all along the line from producer to consumer.

Why, then, denounce big business since its very bigness enables it to accomplish bigger results to our mutual advantage?

The popular prejudice against "Big Business" arises, not from personal experience of injustice or oppression, but from the political habit of making "Big Business" the scapegoat of politics.

The demagog thrives on denunciation. He must have a target. "Big Business" serves his purpose when he is not concentrating his attack upon the railroads, the packers, the steel industry, the lumber business or the oil industry.

The people who listen to him come to believe what he says through sheer force of reiteration. If they ever were to sit down and think the thing out for themselves they would see the absurdity of his talk.

They would realize the part big business has played in leading the progress of the country, in planning big enterprises, in directing our undertakings and finding the means for their accomplishment.

They would find that if big business cannot prosper neither can small business nor the average man or woman.

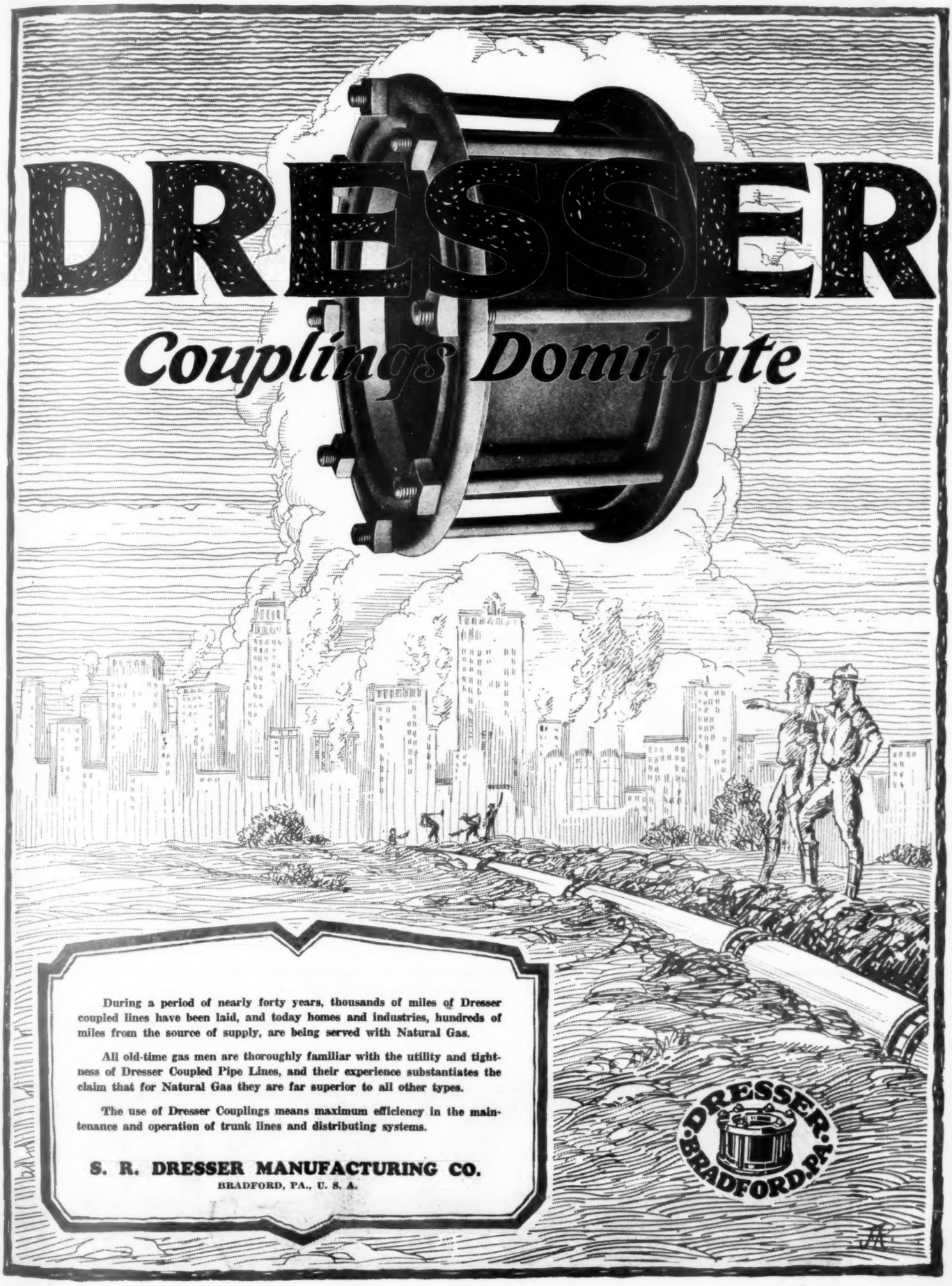
If there had been no big business methods in the automobile industry most of us would still be afoot. If there had been no big business in the oil industry to dot the roads with filling stations and a supply of gasoline our joyriding would be very limited.

A curiously contradictory popular delusion welcomes big business in the motor business and denounces it in the gasoline business.

Stranger still a proposal for a merger of grain marketing companies to keep up the price of grain merits the approval of the President of the United States at the very moment the Attorney General is prosecuting the gasoline companies.

Yet comparison since 1913 shows that the cost of gasoline has been lower than the cost of farm products, lower in fact than the price of all commodities in that period!

There is no more unreasoning or unreasonable notion in this country today than this prejudice against "Big Business" fostered and promoted purely for political purposes by self-seeking men. Other nations take pride in the bigness of their business institutions, in the growth of their industrial establishments. In America alone do we find a persistent propaganda swallowed cheerfully by people who should know better and would know better if they ever paused to think.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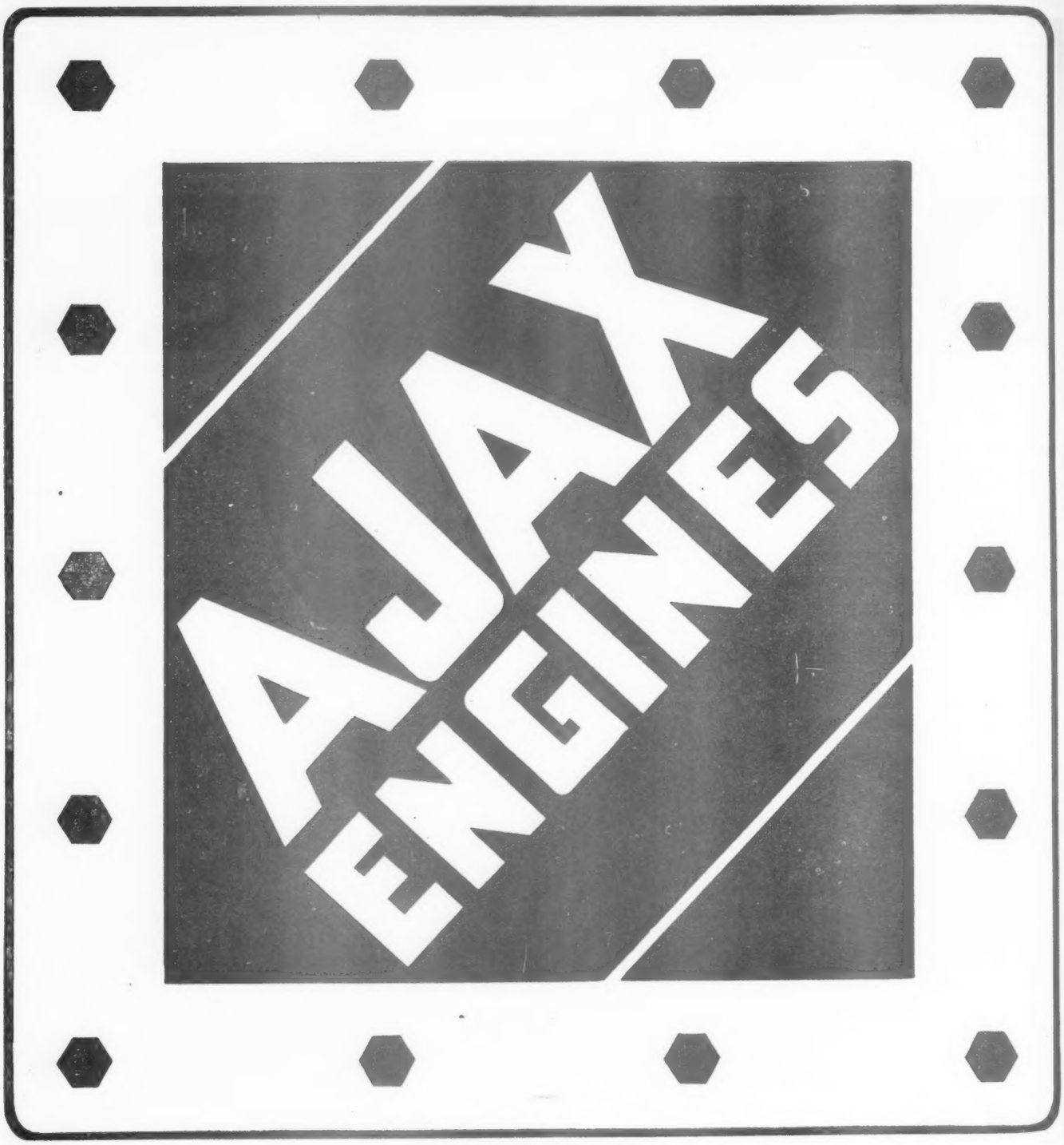

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DRILLING ENGINES

Ajax Replacement Parts

Oklahoma Field Operations

By C. D. Lockwood

Oklahoma production on Saturday, August 9, was 528,125 bbls., to which was added the production of big wells reported Sunday and Monday. Marland pinches in a 14,000-bbl. gusher. Extension wells in Cromwell and another big one added to Tonkawa deep well list.

TULSA, Okla., Aug. 11.—The production of Oklahoma on Saturday, August 9, was estimated at 528,125 bbls. This is a considerably larger figure than the average daily production for the week but as large as it is, it gave promise of being increased considerably when the wells all ready to drill into the deep sand in the Tonkawa Field on Saturday penetrate the pay. It is believed that the production next Saturday will show several thousand barrels increase over the estimate as of August 9.

The production estimate for Saturday is given in more detail as follows:

	Bbls.
Tonkawa	51,000
Burbank	77,800
Osage, without Burbank	54,000
Cromwell	62,000
Papoose	9,500
Wewoka	8,600
Cushing and Shamrock	23,800
Bristow and Eastern Bristow	49,500
Stroud	18,000
Northern miscellaneous	92,750
Southern fields	71,175
Total	528,125

When the Oklahoma fields in June 1923 passed the one-day peak of about 530,000 bbls. it was considered improbable that the State would ever again produce as much oil in a single day, and this belief was all the more strongly held as the months passed and the end of the year saw the production of the State fall to an average of 394,589 bbls. in December. Then came the upward turn and production increased steadily to 459,103 bbls. as the average for the month of June and then came the flood of oil from Cromwell, Stroud and Tonkawa which has brought the output up to a point where it would take but a few big wells to bring it to a figure never equlled in the history of the State.

The tremendous growth of the Oklahoma fields in the past five or six years may be shown by giving the highest average daily production for a month in each year since the years 1918 inclusive.

Highest Production During Year.

	Av. Dy. Prod. Bbls.
July, 1918	244,574
October, 1919	256,574
July, 1920	317,510
July, 1921	335,309
July, 1922	438,425
June, 1923	519,091

The total production of all the fields in the State in July 1918 was less than the total production of five fields, Tonkawa, Burbank, Cromwell, Stroud and Bristow at the present time, and all these fields were discovered and developed since 1918, and with them a large number of other pools.

The most important of the contributing causes for the large present-day production were wells drilled recently in the Hominy Field in Osage County and deep sand wells in the Tonkawa.

14,000-Bbl. Well.

The Marland Refining Co.'s No. 8 in Section 20-23-8 came in about the middle of the week flowing 600 bbls. an hour for three hours, after which it was choked in and permitted to produce 285 bbls. an hour through a 1-inch orifice. This well brought the production of this one lease up to 11,500 bbls. a day with a potential production of 25,000 bbls. if all the wells were opened wide.

The new well is producing from the second break in the Mississippi lime as are the other big wells on the Marland lease.

Saturday morning's report on the deep sand wells in the Tonkawa Field showed the Wentz Oil Corp.'s, (formerly McCaskey & Wentz') deep test in Section 34-25-1w flowing 7,475 bbls. and the Blackwell Oil & Gas Co.'s deep test in the same section flowing 4,225 bbls. with all five deep sand wells in that field producing in excess of 20,500 bbls. There were six wells about due to reach the deep pay at the close of the week.

The production of the Cromwell Pool was hanging around 62,000 bbls. at the end of the week, with a chance of it dropping somewhat before it again begins one of its quick upward trends. There are 70 wells drilling in Township 10-8 but most of them are in the early stages of development and cannot be expected in for several weeks. The most important well in the field at the close of the week was the Central National Oil Co.'s No. 1 Dunn, C SW SE SE, Section 4-10-8, the most northerly of the drilling wells in the field. On Monday it was flowing 45 bbls. an hour and showing 70,000,000 feet of gas at a total depth of about 3,382 feet. This well will extend the field about three quarters of a mile north.

The Josey Oil Co. has a good well in its No. 1 Freeman, SW cor. SE SE Section 21-20-6, between Quay and Maramec in Pawnee County. The Bartlesville sand was touched at 3,105 feet and the well made 785 bbls. the first 24 hours. This well had production in the Peru sand at 2,746 to 2,783 feet.

The Berry Petroleum Co.'s No. 4 Alexander, NE cor. NW SE, Section 4-9-9, Papoose Pool, Hughes County got sand at 3,329 feet and at 4 feet in was flowing 90 bbls. an hour.

Douglass and others have abandoned a test on the Arnett farm, SW cor. SE SE, Section 36-13-17, Muskogee County at 2,350 feet.

One of the most anxiously watched wells in the State is the Roxana Petroleum Corp.'s wildcat No. 1 Culler, C NW NE NW, Section 12-8-8 from which 60,000,000 feet of gas was escaping from sand topped at 3,400 feet, cable measurement. The well is also spraying oil and has all the earmarks of a pool opener. The location is in Hughes County between the Wewoka Pool and the Papoose Pool. The tools were in the hole.

An important extension to the Cromwell Pool is the Sinclair Oil & Gas Co. and Transcontinental Oil Co.'s No. 1, SE cor. SW SW, Section 9-10-8, which got the sand at 3,434 feet and started off at 532 bbls. the first three hours and 180 bbls. an hour for several hours thereafter settling to 110 bbls. an hour late Sunday at a total depth of 3,458 feet. This well and the Central National Oil Co.'s No. 1 in Section 4-10-8 bring the production area of the pool to about 1¼ miles in width and 2½ miles in length, with the trend southwest and northeast.

In the Tonkawa deep sand area the Gypsy Oil Co.'s No. 81 Shawver in the NW cor. Section 2-24-1w, Noble County, got the top of the Wilcox at 4,133 feet and at 8 feet in produced 3,628 bbls. in 24 hours. This was the report on the well this, Monday morning.

Status of Cromwell Gushers

Burke & Greis had a rig on the ground for No. 4 Brown, C NE SE SW, Section 10-10-8, and Roxana Petroleum Corp. had a rig on the ground for No. 1 unallotted, C SW NW SW, Section 14-10-8, Cromwell Pool, in Seminole County.

The Cosden Oil & Gas Co.'s No. 2 Yarhola, C NW SW SE, Section 15-10-8, which got the top of the sand at 3,413 feet, was flowing 2,200 bbls. per day at a total depth of 3,519 feet. The Cosden Oil & Gas Co.'s No. 3 Willis, CNW SE NW, Section 15-10-8, which got the sand at 3,424 feet, was flowing at the rate of 1,900 bbls. a day at a total depth of 3,507 feet. The Hoffer Oil Co.'s No. 2 Stidham, C SE NE NE, Section 16-10-8, which got the top of the sand at 3,437 feet, was flowing 71 bbls. an hour at a total depth of 3,457 feet. The Shaffer Oil & Refining Co.'s No. 1 Yarhola, C NW NE NW, Section 22-10-8, was flowing 5 bbls. an hour from sand topped at 3,398 feet, total depth 3,462 feet, and still in sand. The Shaffer Oil & Refining Co.'s No. 6 Yarhola, C SW NE NW, Section 22-10-8, was making 50 bbls. an hour, top of the sand at 3,400 feet, total depth 3,486 feet. The Carter Oil Co.'s No. 1 Yarhola, C NW NE SW, Section 22-10-8, which got the top of the sand at 3,438 feet, was shut down for orders two feet in the sand and showing some water, and 160 bbls.-a day production.

The Pure Oil Co.'s No. 1 Bruner, C SE SE SE, Section 9-10-8, got sand at 3,395 feet and 30,000,000 feet of gas. It was producing 80 bbls. an hour, and drilling at 3,475 feet. The McMan Oil & Gas Co.'s No. 1 Little, C SW SW SE, Section 10-10-8, was flowing 1,250 bbls. and 70,000,000 feet of gas at 3,529 feet with the top of the sand at 3,369 feet. The Roxana Petroleum Corp.'s No. 1 Brown, C SE SW SW, Section 10-10-8, with sand at 3,420-3,522 feet, was flowing 1,720 bbls. and 45,000,000 feet of gas. The Cosden Oil & Gas Co.'s No. 2 Willis, C SW SE NW, Section 15-10-8, got the top of the sand at 3,469 feet and was flowing 667 bbls. a day at 3,527 feet. There was no increase in production after 3,496 feet. The Wilcox Oil & Gas Co.'s No. 1 Bruner, C NW SE SW, Section 15-10-8, was making 43 bbls. an hour at 3,474-3,553 feet. The Amerada Petroleum Corp.'s No. 4 Bruner, C NE NW SE, Section 16-10-8, was drilling at 3,559 feet and flowing 1,065 bbls., top of the sand at 3,525 feet.

The Pure Oil Co. had a rig up for No. 7 Bruner, CSE SE SE, Section 9-10-8. The Roxana Petroleum Corp. has spudded in No. 5 Brown, C NW SW SW, Section 10-10-8, and is rigging up rotary for No. 6 Brown, C NW NW SW, Section 10-10-8, and has rig on the ground for No. 7 Brown, C SW SW SW, Section 10. The Tidal-Osage Oil Co. has started drilling No. 1 Curley, C NW SW SW, Section 14-10-8. The Carter Oil Co.'s No. 3 O'Neal, C SE NE SW, Section 15-10-8, was spudded in. The Cosden Oil & Gas Co. is near bottom in No. 1 Willis, C SE SE NW, Section 15-10-8. Snowden & McSweeney were drilling below 600 feet in No. 2 Tiger, C NW NW NE, Section 15-10-8; drilling at 300 feet in No. 3 Tiger, C NE NW NE, Section 15, and were at a depth of 535 feet in No. 4 Tiger, C SE NW NE, Section 15. Carter Oil Co.'s No. 2 Roberts, C NE SE NW, Section 16-10-8, was drilling at 740 feet; Gilliland Oil Co.'s No. 6 Proctor, C SW NW NE, Section 16-10-8, drilling at 675 feet; No. 7 Proctor, C NW SW NE, Section 16, drilling below 1,000 feet No. 8, C SW SW NE, Section 16, drilling below 650 feet. The Kingwood Oil Co. ordered the rig removed from C SW NW SW, Section 9-9-8.

The McMan Oil Co.'s No. 2 Baker, C SE NW NW, Section 16-10-8, was drilling below 600 feet; Superior Oil Co.'s No. 2 Baker, C SE NE NW, Section 16-10-8, drilling below 1,075 feet; same company's No. 1 Baker, C NE NE NW, Section 16-10-8, was rigged up to deepen, total depth 3,445 feet; No. 3 Baker, C NW NE NW, Section 16-10-8, drilling below 800 feet; No. 5 Baker, C NW SE NW, Section 16-10-8, drilling at 300 feet. No. 6 Baker, C NE SW NW, Section 16-10-8, drilling below 480 feet. Tidal Oil Co.'s No. 1 Bruner, C NE NW NE, Section 17-9-8, hunting pipe seat for 15½-inch casing in a hole ful of water, total depth 585 feet. Independent Oil & Gas Co.'s No. 3 Harjo, C NE SW NE, Section 21-10-8, drilling below 550 feet. Tidal Osage Oil Co.'s No. 5 Harjo, C NW NE NE, Section 21-10-8, which was completed July 14 and made 2,389 bbls. the first day, was drilled 5 feet deeper to a total depth of 3,498 feet. The last 2 feet was shale and deeper drilling did not help production. The Carter Oil Co. has abandoned the location for No. 1, C NW SE SW, Section 22-10-8, and is fishing for bit at 645 feet in No. 1 Yale, C NW SE NE, Section 22-10-8.

The Shaffer Oil & Refining Co.'s No. 2 Yarhola, C SW NW NW, Section 22-10-8, which was completed in June as a 2,500-bbl. well at 3,402-37 feet, has since been drilled to a total depth of 3,485 feet, but the deeper drilling did not help the production. The last 5 feet was shale. The same company's No. 4 Yarhola, C NE NW NW, Section 22-10-8, was flowing 55 bbls. an hour from sand at 3,397 feet, drilled 63 feet.

Big Deep Sand Production

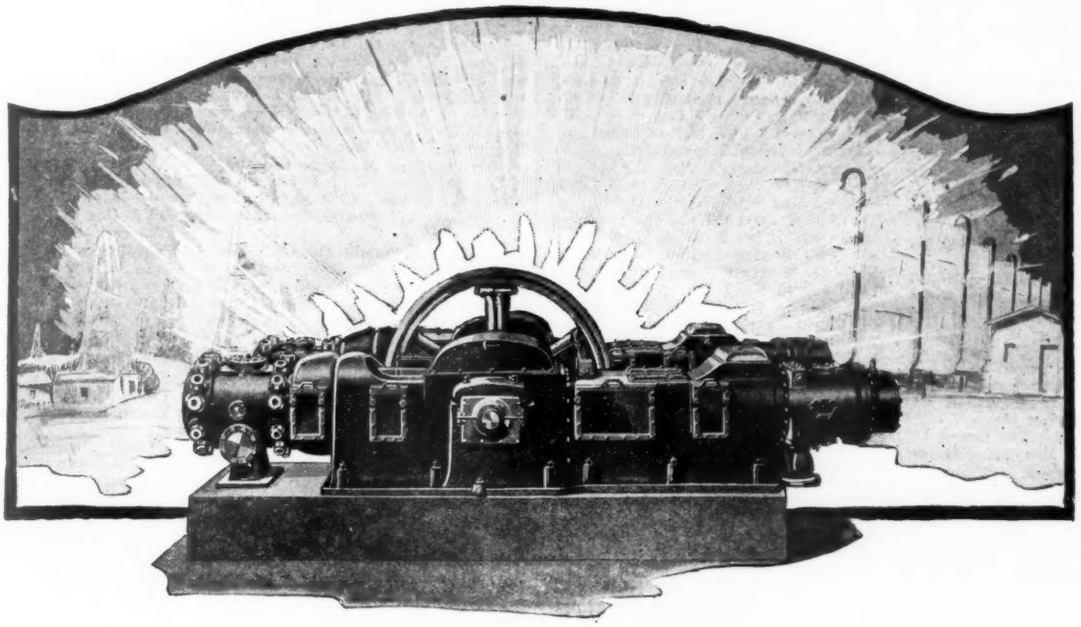
The big deep sand well of the Wentz Oil Corp., formerly McCaskey & Wentz, in Section 34-25-1w, gauged 7,479 bbls. on Thursday and the Blackwell Oil & Gas Co.'s Burgess sand well in the same section made 4,243 bbls. the same day. The Slick & Comar Oil Co.'s deep well in Section 35-25-1w (the "discovery" well) produced 2,530 bbls.; the Comar Oil Co.'s deep one, in Section 3-24-1w, 3,935 bbls., and the Pennok Oil Co.'s deep well in Section 34-25-1w flowed 2,712 bbls., making a total of 20,899 bbls. from five deep sand wells on that day, an increase over the production of the day before of about 2,000 bbls.

There are about 25 wells in the Tonkawa Field that are below 3,000 feet and bound for the Wilcox sand. These should all be completed at sand depth or completed within three weeks. They present an aspect of danger to the industry in Oklahoma. It would be idle to try to estimate what the 25 wells and the 16 others that are drilling to the deep sand will produce initially, but there is a possibility of them sending Tonkawa production up to a mark it has not heretofore reached and altogether a probability of them putting production of that field up to 100,000 bbls. a day unless operators shut down before drilling into the pay, which no one expects them to do at this time. Tonkawa is well provided with pipe lines which have never been put to a capacity test and there will be no trouble in handling the crude if the purchasing companies care to run it.

The Comar Oil Co.'s No. 4 Koffenbrink, C SW NE SW, Section 36-25-1w, a deep test, found nothing in the deep levels and was abandoned at 4,516 feet.

The Twin States Oil Co.'s No. 1 Thomas, NW cor. Section 22-25-2w, was good for 318 bbls. naturally from sand at 2,047-63 feet.

The Wentz Oil Corp.'s No. 18 McKee, C E half NE SW, Section 34-25-1w, set 5-inch at 4,122 feet and was ready to go after the big production in the deep sand. It is the same 40 acres in which the company has a well good for more than 7,000 bbls. The Blackwell Oil & Gas Co.'s No. 7-A Corrigan, NE cor. SE NE, Section 34-25-1w, got sand at 2,459-97 feet and was good for 30



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6. Double stuffing boxes in both power and compressor ends.
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bbls. on the pump. The Comar Oil Co.'s No. 4, C SW NE SW, Section 36-25-1w, was dry and abandoned at 4,516 feet. The Comar Oil Co.'s No. 15-A Ellsworth, CSL NE, Section 2-24-1w, made 70 bbls. a day on the pump from sand at 2,515-50 feet. The same company's No. 10-A Ellsworth, SW cor. NW SW SE, Section 2-24-1w, is a 70-bbl. well on the pump from sand at 2,118-40 feet. No. 15-B Ellsworth, NE cor. SE NE SW, Section 2-24-1w, made 35 bbls. a day from sand at 1,999 to 2,014 feet.

Burbank Operations

Phillips Petroleum Co.'s No. 6, SW cor. NE, Section 18-27-6, Burbank Field, is spudding; same company's No. 3, SE cor. SW SE NE, Section 18-27-6, spudded in; same company's No. 4, SE cor. NE, Section 18-27-6, spudded in; The Texas Co.'s No. 1, SE cor. NW, Section 18-27-6, drilling below 350 feet; The Texas Co.'s No. 5, SE cor. NE SW NW, Section 18-27-6, rig up.

The Phillips Petroleum Co.'s No. 6, SE cor. SW SE NW, Section 20-27-6, was a 100-bbl. well after a 100-quart shot at 2,912-52 feet.

The Phillips Petroleum & Skelly Oil Co.'s No. 7, SE cor. NE SE NE, Section 7-26-7, got the top of the sand at 2,818 feet, bottom at 2,859 feet. It was shot with five quarts but the hole filled only 700 feet with oil. The Laurel Oil & Gas Co.'s No. 4 Mehojah, NE cor. NW NE SW, Section 4-27-5, Kay County, was drilling below 660 feet. No. 5 Mehojah, NW cor. NE NW SW, Section 4-27-5, was drilling below 250 feet.

George J. Bole's No. 1 Clubb, NE cor. Section 8-27-5, Kay County, was plugged and abandoned at 2,927 feet. It had only a showing in sand topped at 2,898 feet and there was considerable salt water. The Skelly Oil Co.'s No. 1 Clubb, NW cor. NE NW SW, Section 9-27-5, made an 80-bbl. well at 2,936-49 feet. The Carter Oil Co. was drilling below 300 feet in No. 8, NW cor. NE NW NW, Section 11-27-5, and drilling at 360 feet in No. 9, C SE NW NW, Section 11, and drilling at 250 feet in No. 10, C NE SW NW, Section 11.

The Phillips Petroleum Co. has moved in a rig for No. 14, NW cor. NE NW SE, Section 11-27-5, Burbank Field. Its No. 13, NW cor. NW SW, Section 11, was good for 250 bbls. after a 120-quart shot at 2,934-82 feet, and its No. 14, NW cor. NE NW SW, made 300 bbls. the first day after a 20-quart shot at 2,931-79 feet. Both were old wells. The Carter Oil Co. has commenced drilling Nos. 6, 7 and 8, northwest quarter of Section 13-27-5, and Nos. 6, 7 and 8 in the northeast quarter of the same section. The Cosden Oil & Gas Co.'s No. 11, C SE NE SW, Section 14-27-5, swabbing 30 bbls. a day at 3,013-58 feet. No. 15 was shot with 40 quarts at 3,090-3,125 feet and was a 40-bbl. well. It is in the C SE NW SW of Section 14-27-5. The Twin State Oil Co.'s No. 15 McCassey, C NE SW NW, Section 15-27-5, was a 60-bbl. well after a 60-quart shot at 2,976-3,000 feet. The Phillips Petroleum Co. and Skelly Oil Co.'s No. 7, SE cor. NE SE NE, Section 7-26-6, was shot at 2,847-62 feet and started at 35 bbls. The Carter Oil Co.'s No. 12, C NE SW SW, Section 16-26-6, made a 420-bbl. initial production after a shot at 2,919-68 feet. The same company's No. 9, C E half SW SE, Section 16-26-6, made 373 bbls. the first 24 hours after a shot at 2,873-2,940 feet.

In the Stroud Field in Lincoln and Creek Counties, the Amerada Petroleum Co. and Wrightsman's No. 1 on Lot 9, Key West, Section 1-14-6, which started at 1,160 bbls. from sand at 4,131-83 feet, is down to 654 bbls. a day; Amerada Petroleum Corp.'s No. 4 Lewis, south half of Lot 6, Section 12-14-6, oil from 4,086-4,150 feet, initial production 2,400 bbls. naturally, shot with 20 quarts twice, without helping, now 700 bbls. a day; same company's No. 5 Lewis, north half Lot 7, Section 12-14-6, oil at 4,095-4,151 feet, initial production 1,450 bbls. naturally, now 900 bbls. Roxana Petroleum Corp.'s No. 7 Zollers, SE cor. S half Not 4, Section 1-14-6, oil at 4,169-80 feet, initial production 203 bbls. naturally, down to 122 bbls. Union Petroleum & Supply Co.'s No. 2 Jackson, NE cor. SE SE, Section 2-14-6, sand at 4,120-45 feet, 2,000 feet of oil in the hole; water at 4,145-50 feet. Its small showing of oil defines the pool in that direction. The east side of the Stroud area is the only one not defined.

The Roxana Petroleum Corp.'s No. 1 Jack, SW cor. SE NW, Section 7-14-7, found oil sand at 4,102-66 feet and started at 1,169 bbls. but later was reported doing 1,422 bbls. Waite Phillips Co.'s No. 3 Jack, SE cor. NW NW, Section 7-14-7, got oil sand at 4,106-45 feet, started at 2,226 bbls. a day and was later reported producing 1,464 bbls. Wood & Farren's No. 1 Jack, C NW SW NW, Section 7-14-7, had an initial production of 750 bbls. naturally.

Lewis Friedman's No. 1, Lot 14, Block 7, Key West, Section 12-14-6, was underreaming 8¼-inch pipe at 920 feet. The Square Deal Oil Co. has a derrick up for No. 1, Lot 5, Block 11, C S half SE NW, Section 12-15-6. Charles F. Noble Oil & Gas Co. was drilling below 1,000 feet in No. 1 Lewis, SW cor. NE SW, Section 7-14-7. The Twin States Oil Co. has a rig up for a test on the Bartlett farm, NW cor. SE, Section 7-14-7.

In Kay County, the Comar Oil Co.'s No. 1 Hallenbeck, NE cor. SW, Section 21-29-1w, was good for 415 bbls. naturally at 2,062-73 feet. Polin & Denny's No. 1 Case, SE cor. SW, Section 4-27-1w, had 2,000,000 feet of gas in sand at 830 to 835 feet and was drilling at 850 feet. The Blackwell Oil & Gas Co.'s No. 1 Crouch, SW cor. Section 10-27-1w, was drilling at 300 feet. The same company has a rig up for No. 2 Crouch, NW cor. Section 23-27-3w.

Grant County Failures

In Grant County Jarvis and others' No. 1 Bonham, NW cor. NE, Section 11-26-5w, was dry and abandoned at 3,490 feet. Pierce Oil Corp.'s No. 1 Reynolds, NE cor. NW, Section 19-25-5w, was abandoned as dry at 3,502 feet.

The Kay and Kiowa Oil Co.'s No. 1 School Land, NW cor. SE, Section 16-27-1w, was dry and abandoned at 3,510 feet. Mannahan & Ostott's No. 1 School Land, SW cor. NE NE, Section 16-27-1w, made a 15,000,000-foot gas well at 3,425-33 feet. The Ima See Oil Co. has a rig up for No. 1 Johnson, NE cor. Section 18-27-1w. Dance and others abandoned a failure, No. 1-A Fairless, NE cor. NW SW, Section 26-26-1w, at 3,209 feet.

The O'Kansas Oil Co.'s No. 1 Hall, SE cor. NE SW, Section 18-25-2e, got sand at 3,765-75 feet with a showing but will go deeper. The Marland Refining Co.'s No. 1 Walking Sky, C NE SE, Section 18-25-2e, made 201 bbls. naturally in sand at 3,777-84 feet.

Okmulgee and Muskogee Counties

Jack Summers' No. 1 Lewis, SE cor. NE NE, Section 12-15-15, Muskogee County, was a 10,000,000-foot gasser at 751-60 feet.

The Iron Mountain Oil Co.'s No. 4 Thornberry, SE cor. NW, Section 24-13-14, was abandoned as dry at 2,784 feet. Henson and others' No. 1 Durant, NE cor. SE NE, Section 34-14-15, was abandoned as dry at 2,140 feet.

H. H. Galbraith was rigging up No. 3 Scott, CEL NE SW, Section 26-13-13, Okmulgee County; Akin Oil Co.'s No. 7 Fox, CNL NW NE, Section 22-13-14, shut down at 1,500 feet; J. L. Powell's No. 4, SE cor. NE NE SE, Section 8-14-15, rig up. Misner and others were drilling below 1,750 feet in No. 13 Colbert, CEL NW SW, Section 16-14-14.

Blocking in Mayes County

The First Choice Oil & Gas Co. of Tulsa has leased a block between Choteau and Pryor in Mayes County, the center of which is Sections 4, 5, 8 and 9 in Township 20-19, about 35 miles east and north of Tulsa, and plans to start a test in the township mentioned. Mayes County is the wildwest of wildcat territory but it has been gone over pretty thoroughly this year by geologists and appears to look good enough for some test work. The Seneca fault traverses the county from southwest to northeast and it is near this that most of the contemplated work is expected to be done. Shallow gas was found near Pryor in years gone by.

Panhandle Gets a Play

Far over in the Panhandle, which was known in the old territorial days as No Man's Land, Embrey Lemaster has a rig up for a test on the Lavery farm, SW cor. NE, Section 19-4n-26e, (Cimmaron meridian) in Beaver County. H. J. Sangvanette has a rig up for No. 1 Wolfe, SW cor. NE, Section 22-4n-28e. Ed Skaer drilled to 515 feet and shut down No. 1 Carson, SW cor. NE NE, Section 9-3n-23e. This is a first report on these operations.

In Major County the Texas Producers Oil & Gas Co. has started a test in the SW cor., Section 36-22-14w, but after spudding in shut down for fuel oil.

In Woodward County D. J. Anderson has a rig up for No. 1, SW cor., Section 4-23-17w.

Creek County Developments

The Nowata Oil & Refining Co. abandoned as dry its No. 2 McNac, NE cor. SW NW, Section 16-16-9, Bristow Field, Creek County, total depth 2,974 feet. The Independent Oil & Gas Co.'s No. 1 Harrison, NE cor. SW, Section 36-16-10, Eastern Bristow, is a 40-bbl. well from sand at 2,705-28 feet but drilling was continued, total depth 2,790 feet. The Pure Oil Co.'s No. 13 Yarhola, NE cor. SE NW, Section 17-15-8, was shot with 160 quarts at 3,749-3,809 feet and it flowed 500 bbls. of high gravity crude the first 24 hours. The Plymouth Petroleum Co.'s No. 4, SW cor. NW NW, Section 26-15-10, started at 95 bbls. a day and settled to 40 bbls. from sand at 3,051-53 feet. C. D. West and others have a failure in No. 2 Mayes, NW cor. NE NE SE, Section 22-14-9, abandoned at 990 feet.

Hartman & Williams have shut down No. 1 Free, NW cor. SW, Section 35-16-10, Creek County. The Lima Oil Co. is drilling below 300 feet in No. 1 Big Pond, NW cor. SW NE SW, Section 25-15-17. The Eastern Oil Co. was shut down with 2,000 feet of oil in the hole in No. 4 Roberts, NE cor. SE, Section 17-15-9. The oil came from sand at 3,755-78 feet. No. 6 Roberts, SW cor. NE SE, Section 17, was drilling below 300 feet. The Prairie Oil & Gas Co.'s No. 3 Mitchell, SE cor. NW SE, Section 17-15-8, was spudded in. Little Fay's No. 3 Marshall, SW cor. NW NE, Section 30-15-8, was drilling below 300 feet; C. G. Tibbens' No. 6 Yarhola, NE cor. SE, Section 34-15-8, a rig; Oklahoma Producing & Refining Co.'s No. 2 Bearhead, SE cor. NE, Section 30-14-8, a rig; R. M. Galer's No. 1 Smith, SW cor. NW NE, Section 29-15-9, was spudded in; Wolverine Oil Co.'s No. 5 Clark, SE cor. NE, Section 22-15-10, drilling below 800 feet.

Cosden Oil & Gas Co.'s No. 1 McIntosh, SW cor. SE, Section 29-14-9, is spudded in; Evans and others' No. 1 SE cor. NW, Section 4-14-10, spudded in; Phillips Petroleum Co.'s No. 2 Brown, SW cor. NW NE, Section 4-14-10, drilling below 725 feet; Skelly Oil Co.'s No. 6 Brown, SE cor. NE NW, Section 4-14-10, drilling at 850 feet. Burke & Greis' No. 3 Barnett, NE cor. SE NE, Section 31-14-10, rigged up; Cosden Oil & Gas Co.'s No. 2 Mitchell, NW cor. SW NW, Section 32-14-10, rig on the ground.

Hughes County

The Mid-Kansas Oil & Gas Co.'s No. 1 Baker, C NE SE NW, Section 9-9-11, set 8¼-inch pipe at 2,735 feet and was shut down for wire line, total depth 2,850 feet.

The Burke-Greis Oil Co.'s No. 1 unallotted, SW cor. NW NW, Section 28-12-10, Okfuskee County, was abandoned as dry at 3,447 feet.

In the Papoose Pool, the Papoose Oil Co.'s No. 5 Alexander, C NW SW SE, Section 4-9-9, was making 1,000 bbls. a day at 3,325-33 feet. The Transcontinental Oil Co.'s No. 1 Tiger, C SE SE NE, Section 4-9-9, was flowing 325 bbls. a day at 3,291-3,300 feet, Pe-

(Continued on Page 42)

Kansas Oil Field News

By C. D. Lockwood

The Coleman Pool, in Montgomery County, Kansas, is attracting much attention. Recent completions and near completions in the Wilcox sand by the Red Bank Oil Co., Homer T. Lamb and others, have proved it to be a rich producing area. Homer T. Lamb's No. 1, NE cor. NW, Section 33-32-14, was still standing a hole full of oil from sand at 1,696 feet, drilled in 4 feet, while the Red Bank Oil Co.'s No. 1, NW cor. NE, Section 33-32-14, was flowing about 350 bbls. a day from sand at 1,704-12 feet. The original well was holding up at 1,200 bbls. It is in the SW cor. SE, Section 28-32-14.

The Canary Oil Co.'s No. 1, no farm name, NW cor. NE NE, Section 6-33-15, got the top of the lime at 1,375 feet and a 120-bbl. daily production from sand at 1,723-27 feet. The oil is of 27 degrees gravity. Harwood & Carter's No. 1 Simmons, NE cor. SW, Section 30-32-14, was dry and abandoned at 1,762 feet. The top of the lime was found at 1,439 feet. The Red Bank Oil Co. & Lamb had machine rigged up for No. 2 Good, NE cor. SE NW, Section 33-32-14. Tucker & Connolly were drilling at 650 feet in No. 1, NW cor. SW NE, Section 33-32-14. The Red Bank Oil Co.'s No. 2 Haynes, SW cor. NW, Section 33-32-14, was spudded in. The same company's No. 1 Haynes, NW cor. NE, Section 33-32-14, was drilling below 1,500 feet. Same company's No. 1 Good, NE cor. NW, Section 33-32-14, was drilling below 1,510 feet. Same company's No. 1 Love, SE cor. SW, Section 28-33-14, was drilling at 700 feet. O. V. Goldrick and others are drilling below 600 feet in a test on the Anderson farm, SW cor. NE, Section 10-31-16.

In Cowley County, the Alcorn Oil Co.'s test, C NE NE NE, Section 9-33-3, reported last week, was last reported flowing 38 bbls. an hour. Waite Phillips Co. and Marland Refining Co.'s No. 1 Wertman, SE cor. NW, Section 20-33-3, made 800 bbls. in 12 hours from sand at 3,188 to 3,216 feet, while No. 3 Wertman, SW cor. SE NW, Section 20, was making 475 bbls. at 3,215-42 feet. Neither well is a completion. Locations for No. 5, NW cor. SW NW and No. 6, NE cor. SE NW, have been made. Waite Phillips and Marland Refining Co.'s No. 3 Johnson, in Section 20, was flowing 2,400 bbls. and No. 2 Glasgow, 72 bbls. an hour. Waite Phillips and others' No. 3 Glasgow, C SE NE SW, Section 20-33-3, made 100 bbls. the first hour from sand at 3,196-3,231 feet. On the fourth day it was flowing 1,670 bbls.

Hull & Co.'s No. 9 Dalfelder, SW cor. NW SE, Section 24-32-4, Cowley County, had sand at 2,328-58 feet from which oil filled the hole 1,700 feet. It was drilled on down to sand at 3,003-32 feet and flowed 407 bbls. the first day and several days afterwards was flowing 150 bbls. through 2-inch tubing and packer.

The Arkansas Fuel Co. has commenced drilling No. 1 Newman, SE cor. NE, Section 12-32-4. The Empire Gas & Fuel Co. has spudded in No. 1 C. Eastman, NE cor. NW, Section 6-31-6. Waite Phillips Co. and others were drilling No. 1 D. Johnson, NW cor. NE SE, Section 20-33-3 at 300 feet. The White Eagle Oil & Refining Co. has timbers in for a test on the Sandborn farm, SW cor. NW SW, Section 30-30-6. The Lewis Oil Co. has a rig up for No. 1 Gibbs, SE cor. NW NE, Section 31-30-6.

Shawver & Sutter's No. 1 Martin, NW cor. Section 35-30-3, was dry and abandoned at 3,390 feet and the same operators' No. 1 Magnuson, NW cor. SW, Section 14-30-4, was abandoned as dry at 2,885 feet. The Lewis Oil Co.'s No. 2 Gibbs, SE cor. SW SE SW, Section 31-30-6, had a 10,000,000-foot gas production in sand at 2,844-53 feet and from 2,853 to 2,856 feet in produced 300 bbls. of oil and an equal quantity of water

(Continued on Page 128)

Petroleum Statistics for the First Six Months of 1924

SUMMARY OF STATISTICS OF CRUDE PETROLEUM, 1923

(Extract from final report in course of publication.)

PRODUCTION BY STATES. (Thousands of barrels of 42 U. S. gallons.)

The production of petroleum in the United States, in 1923, according to the Department of the Interior, was 732,407,000 barrels. This figure was determined by adding to the quantity transported from producing properties, reported to the Geological Survey by companies that operate gathering lines, the quantity consumed for fuel on producing properties and the net increase between January 1 and December 31 of stocks held on producing properties, as shown by the annual canvass of producers.

	January	February	March	April	May	June	July	August	September	October	November	December	1923	1922
Arkansas	2,830	2,281	3,222	3,117	3,463	3,287	3,092	3,042	3,282	3,273	2,911	2,810	36,610	12,712
*California	16,362	16,327	19,485	20,570	21,409	22,528	25,232	26,417	25,744	24,546	22,384	21,872	*262,876	*138,468
Colorado	6.9	5.5	5.8	6.4	9.1	7.5	6.9	8.2	7.9	7.6	7.7	6.5	86	97
Illinois	773	643	807	662	784	739	745	747	696	733	693	685	8,707	9,383
Indiana—														
Southwestern	71	60	64	69	73	70	68	70	63	64	62	59	793	848
Northeastern	21	16	19	19	19	20	22	25	24	27	18	20	250	239
Total Indiana	92	76	83	88	92	90	90	95	87	91	80	79	1,043	1,087
Kansas	2,463	2,155	2,549	2,681	2,812	2,595	2,300	2,005	1,821	2,164	2,371	2,334	28,250	31,766
Kentucky	746.3	643.3	675.4	674.4	670	688.3	611.7	736	670.7	685.3	628.3	639.3	8,069	8,973.3
Louisiana—														
Gulf Coast	202	183	217	204	214	209	208	208	210	204	197	194	2,450	1,747
Rest of State	2,185	1,876	2,190	2,026	2,046	1,849	1,887	1,868	1,687	1,687	1,588	1,580	22,469	33,629
Total Louisiana	2,387	2,059	2,407	2,230	2,260	2,058	2,095	2,076	1,897	1,891	1,785	1,774	24,919	35,376
Montana	255	209	234	249	225	225	271	280	276	211	169	178	2,782	2,449
New York	88	76	90	99	106	104	110	105	140	115	105	112	1,250	1,000
Ohio—														
Central and eastern	413	349	424	414	434	411	422	421	404	436	403	400	4,931	4,751
Northwestern	173	141	187	177	193	195	188	188	182	190	171	169	2,154	2,030
Total Ohio	586	490	611	591	627	606	610	609	586	626	574	569	7,085	6,781
Oklahoma—														
Osage County	3,670	3,001	3,048	3,508	3,831	3,440	3,621	3,177	2,783	2,700	2,682	2,701	38,162	38,216
Rest of State	9,046	8,987	10,591	11,335	11,987	12,448	10,965	9,881	8,928	9,239	9,826	9,534	122,767	111,355
Total Oklahoma	12,716	11,988	13,639	14,843	15,818	15,888	14,586	13,058	11,711	11,939	12,508	12,235	160,929	149,571
Pennsylvania	644	523	667	650	700	655	643	652	603	673	594	605	7,609	7,425
Tennessee	.7	.7	.6	.6	.1	.7	.3	1	.3	.7	.7	.7	8	9.8
Texas—														
Gulf Coast	3,058	2,479	2,568	2,478	2,657	2,635	2,683	2,733	2,540	2,476	2,255	2,259	30,821	35,370
Rest of State	6,063	5,386	6,232	6,093	6,533	6,633	8,132	9,117	10,532	13,345	13,504	8,632	100,202	83,314
Total Texas	9,121	7,865	8,800	8,571	9,190	9,268	10,815	11,850	13,072	15,821	15,759	10,891	131,023	118,684
West Virginia	515	472	571	528	582	544	538	559	503	575	477	494	6,358	7,021
Wyoming	2,940.1	2,773.5	3,120.2	3,446.6	3,626.9	3,560.5	4,177.1	4,179.8	4,208.1	4,152.4	4,340.3	4,259.3	44,785	26,715
†Others	1	1	2	1	2	1	2	2	1	2	1	2	18	13
	52,527	48,588	56,969	59,008	62,377	62,845	65,925	66,422	65,306	67,506	65,388	59,546	732,407	557,531

*California State Mining Bureau. Monthly figures for California prorated on basis of monthly figures reported by the American Petroleum Institute. †Alaska, Mo. and N. Mex.

Production by Fields (Thousands of barrels of 42 U. S. gallons):														
Appalachian	2,407	2,064	2,428	2,366	2,493	2,403	2,325	2,474	2,321	2,485	2,208	2,251	28,225	29,180
Lima-Indiana	194	157	206	196	212	215	210	213	206	217	189	189	2,404	2,269
Illinois and Southwest Indiana	844	703	871	731	857	809	813	817	759	797	755	744	9,500	10,231
Mid-Continent	26,257	23,686	27,832	28,760	30,672	30,252	29,997	29,090	29,033	32,408	32,882	27,591	348,460	310,992
Gulf Coast	3,260	2,662	2,785	2,682	2,871	2,844	2,891	2,941	2,750	2,680	2,452	2,453	33,271	37,117
Rocky Mountain	3,202	2,988	3,360	3,702	3,861	3,793	4,455	4,468	4,492	4,371	4,517	4,444	47,653	29,261
California	16,362	16,327	19,485	20,570	21,409	22,528	25,232	26,417	25,744	24,546	22,384	21,872	262,876	138,468
Other	1	1	2	1	2	1	2	2	1	2	1	2	18	13
	52,527	48,588	56,969	59,008	62,377	62,845	65,925	66,422	65,306	67,506	65,388	59,546	732,407	557,531
*Importers and Exports of Crude Petroleum of barrels of 42 U. S. gallons):														
*Imports—														
From Mexico	6,540	6,198	7,289	6,391	5,929	5,996	6,771	7,341	6,021	6,681	6,085	8,112	79,354	126,195
From other countries	767	1	769	226	66	.....	144	239	.....	144	.....	305	2,661	1,113
	7,307	6,199	8,058	6,617	5,995	5,996	6,915	7,580	6,021	6,825	6,085	8,417	82,015	127,308
Exports: Domestic crude oil—														
To Canada	644	409	611	818	717	1,033	583	734	795	830	662	989	8,825	8,197
To other countries	104	227	393	661	589	1,540	935	777	766	462	702	1,080	8,236	1,798
Foreign crude oil	14	30	24	32	18	25	29	31	31	23	33	34	324	168
	762	666	1,028	1,511	1,324	2,598	1,547	1,542	1,592	1,315	1,397	2,103	17,385	10,163
Excess of imports over exports	6,545	5,533	7,030	5,106	4,671	3,398	5,368	6,038	4,429	5,510	4,688	6,314	64,630	117,145

*Bureau of Foreign and Domestic Commerce. †Including topped oil.

SHIPMENTS OF CALIFORNIA OIL THROUGH PANAMA CANAL TO EASTERN PORTS IN UNITED STATES

(From the Panama Canal Record. Compiled from declaration by masters of vessels reported in tons of 2,240 pounds.)

	January	February	March	April	May	June	July	August	September	October	November	December	*Year
Crude oil: long tons	134,995	238,310	441,363	602,507	696,239	622,219	756,704	756,801	840,360	702,010	724,678	742,725	7,267,911
Barrels (approx.)	985,000	1,740,000	3,222,000	4,398,000	5,075,000	4,542,000	5,524,000	5,525,000	6,135,000	5,126,000	5,290,000	5,422,000	52,983,000
Refined products: long tons	.....	10,042	47,364	63,291	54,160	67,643	43,559	24,506	27,000	29,514	29,400	62,849	459,328

*In some of the manifests for the first few months of 1923 crude oil is not declared as such; during 1922 there was shipped from California to eastern ports in the United States 345,000 tons of crude and refined oil.

INDICATED DELIVERIES OF DOMESTIC AND IMPORTED CRUDE PETROLEUM TO DOMESTIC CONSUMERS

(Thousands of Barrels of 42 U. S. Gallons)

Domestic petroleum; by fields of origin:	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	1923	1922
Appalachian	2,291	1,952	2,156	2,541	2,578	2,283	2,328	2,333	2,402	2,346	2,315	2,262	27,788	27,184
Lima-Indiana	148	161	173	192	193	198	201	185	191	178	161	145	2,126	2,589
Illinois and S. W. Indiana	767	702	656	588	687	847	661	613	542	595	791	1,114	8,563	7,649
Mid-Continent	24,279	23,219	25,361	24,431	23,332	22,497	24,460	28,515	21,503	27,299	26,622	25,533	297,051	257,838
Gulf Coast	3,178	3,439	3,262	3,009	2,616	2,762	2,959	2,566	2,467	2,307	2,330	3,208	34,103	30,037
Rocky Mountain	*14	2,590	2,488	2,839	2,849	2,341	3,481	2,133	2,647	2,726	2,341	2,691	29,640	28,487
California	16,221	13,758	18,534	19,886	20,871	20,358	22,613	22,224	28,043	22,819	21,629	23,133	250,089	124,115
Other	1	1	2	1	2	1	2	2	1	2	1	2	18	13
Deliveries and exports	46,899	45,822	52,632	53,487	53,128	51,787	56,705	58,571	57,797	58,272	56,190	58,088	649,378	477,912
Exports of domestic crude oil	748	636	1,004	1,479	1,306	2,573	1,518	1,511	1,561	1,292	1,364	2,069	17,061	9,995
Deliveries in U. S. and territories	46,151	45,186	51,628	52,008	51,822	49,214	55,187	57,060	56,236	56,980	54,826	56,019	632,317	467,917
Imported petroleum: Deliveries in U. S. and territories	8,078	6,306	8,068	6,732	5,989	5,931	6,870	7,548	5,988	6,620	6,034	7,835	81,999	124,515
Deliveries of domestic and imported petroleum in U. S. and territories	54,229	51,492	59,696	58,740	57,811	55,145	62,057	64,608	62,224	63,600	60,860	63,854	714,316	592,432

*Calculated result due to reclassification of certain stocks by transfer from refinery to tank farm.

DAYS' SUPPLY OF PIPE LINE AND TANK FARM STOCKS OF CRUDE PETROLEUM

(Based on average daily rate for month of deliveries to domestic consumers and exports.)

January	February	March	April	May	June	July	August	September	October	November	December
146	140	135	135	146	151	146	144	148	155	160	157

CRUDE PETROLEUM—MONTHLY SUMMARY FOR 1923

	Production		Imports		Exports		†Stocks		Indicated Del. to Dom. Consumers		‡Number of producing oil wells completed during month
	Total barrels	Daily average barrels	Total barrels	Daily average barrels	Total barrels	Daily average barrels	Held on last day of month, barrels	†Number of days' supply	Total barrels	Daily average barrels	
January	52,527,000	1,694,419	7,307,000	235,710	762,000	24,581	258,197,000	146	54,229,000	1,749,323	1,208
February	48,588,000	1,735,286	6,199,000	221,393	666,000	23,786	260,717,000	140	51,492,000	1,839,000	1,094
March	56,969,000	1,837,710	8,058,000	259,935	1,028,000	33,161	264,899,000	135	59,696,000	1,925,677	1,248
April	59,008,000	1,966,933	6,617,000	220,567	1,511,000	50,367	270,155,000	135	58,740,000	1,958,000	1,521
May	62,377,000	2,012,161	5,995,000	193,387	1,324,000	42,710	279,272,000	146	57,811,000	1,864,871	1,871
June	62,845,000	2,094,833	5,996,000	199,867	2,598,000	86,600	290,252,000	151	55,145,000	1,838,167	1,830
July	65,925,000	2,126,613	6,915,000	223,065	1,547,000	49,903	299,368,000	146	62,057,000	2,001,839	1,733
August	66,422,060	2,142,645	7,580,000	244,516	1,542,000	49,742	307,100,000	144	64,608,000	2,084,129	1,465
September	65,306,000	2,176,867	6,021,000	200,700	1,592,000	53,067	314,493,000	148	62,224,000	2,074,133	1,278
October	67,506,000	2,177,613	6,825,000	220,161	1,315,000	42,419	323,789,000	155	63,600,000	2,051,613	1,140
November	65,388,000	2,179,600	6,085,000	202,833	1,397,000	46,567	332,887,000	160	60,860,000	2,028,667	1,007
December	59,546,000	1,920,839	8,417,000	271,515	2,103,000	67,839	334,774,000	157	63,854,000	2,059,806	887
	732,407,000	2,006,595	82,015,000	224,699	17,385,000	47,630			714,316,000	1,957,030	16,282

*Net pipe line and tank farm stocks of domestic crude oil east of California; producers, pipe line and tank farm stocks (but not refinery stocks) of crude oil, residuum, and tops in California and stocks of imported crude and topped oil topped in Mexico held in the United States by importers elsewhere than at refineries. †Based on average daily rate for month of deliveries to domestic consumers and exports. ‡States east of California, from The Oil and Gas Journal; California, from American Petroleum Institute.

STOCKS OF CRUDE PETROLEUM
(Thousands of Barrels of 42 U. S. Gallons)

		Pipe Line and Tank Farm Stocks												Producers' Stocks	
Domestic petroleum by fields of origin:		Jan. 31, 1923	Feb. 28	March 31	April 30	May 31	June 30	July 31	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31, 1923	Dec. 31, 1923	Dec. 31, 1922 - 1923
East of California:															
Appalachian:															
N. Y., Pa., W. Va., E. and Cent. Ohio:	Gross	6,232	6,360	6,523	6,337	6,231	6,313	6,426	6,472	6,443	6,611	6,560	6,606	6,200	
	Net	5,972	6,102	6,264	6,079	5,973	6,053	6,165	6,262	6,150	6,333	6,284	6,331	5,941	411
Kentucky:	Gross	3,120	3,092	3,202	3,205	3,220	3,255	3,135	3,170	3,193	3,144	3,074	3,007	3,041	
	Net	3,004	2,979	3,081	3,083	3,096	3,128	3,005	3,041	3,063	3,011	2,945	2,879	2,927	
Lima-Indiana:	Gross	989	988	1,011	1,016	1,036	1,053	1,065	1,082	1,097	1,127	1,166	1,211	939	
	Net	732	729	763	768	788	806	816	845	861	901	930	975	685	57
Ill.-S. W. Ind.:	Gross	10,720	10,722	10,939	11,041	11,212	11,176	11,328	11,532	11,726	11,942	11,905	11,528	10,641	166
	Net	10,218	10,220	10,436	10,580	10,751	10,714	10,867	11,072	11,290	11,494	11,459	11,091	10,140	
Mid-Continent:															
Okla.,* Kans., Cent. and N. Texas:	Gross	146,868	146,488	147,029	151,435	156,596	162,147	165,836	166,248	172,811	177,146	182,928	183,052	147,456	
	Net	136,183	135,576	136,755	140,258	145,349	150,792	154,464	155,172	161,687	165,849	171,836	171,781	136,601	6,095
N. Louisiana and Arkansas:	Gross	18,968	19,994	21,327	22,015	24,231	26,492	28,287	28,067	29,580	30,487	31,762	32,927	16,617	
	Net	18,276	19,267	20,467	21,204	23,362	25,585	27,369	27,135	28,061	28,917	29,101	31,123	15,972	
Gulf Coast:	Gross	25,992	24,491	23,946	23,668	23,931	24,017	23,942	24,314	24,637	24,950	25,077	24,355	26,373	
	Net	24,865	24,090	23,615	23,290	23,547	23,631	23,565	23,942	24,227	24,602	24,726	23,974	24,781	1,015
Rocky Mountain:*	Gross	†5,173	5,548	6,381	7,214	8,202	9,132	10,080	12,392	14,217	15,836	17,987	19,718	2,002	684
	Net	†5,154	5,529	6,376	7,214	8,201	9,128	10,077	12,387	14,207	15,826	17,977	19,704	1,991	
Total	Gross	218,062	217,683	220,358	225,921	234,659	243,585	250,099	253,277	263,704	271,253	280,459	282,404	213,269	8,428
	Net	204,404	204,492	207,757	212,476	221,067	229,837	236,318	239,856	249,546	256,933	265,258	267,858	199,038	
California‡		49,516	52,085	53,036	53,720	54,258	56,428	59,047	63,240	60,941	62,668	63,423	62,162	49,375	
Imported petroleum held in the U. S. by importers elsewhere than at refineries:															
At Atlantic Coast Stations:	Crude	308	290	265	235	154	217	176	174	170	230	318	324	‡202	
	§Topped	2,790	2,805	2,776	2,750	2,700	2,650	2,600	2,340	2,433	2,551	2,604	2,806	‡2,642	
At Gulf Coast Stations:	Crude	340	423	447	374	493	530	627	819	750	772	789	1,059	‡1,616	
	§Topped	839	622	618	600	600	600	600	671	653	635	495	565	‡602	
Total imported petroleum		4,277	4,140	4,106	3,959	3,947	3,987	4,003	4,004	4,006	4,188	4,206	4,754	‡5,062	
Total dom. and imp. petroleum		258,197	260,717	264,899	270,155	279,272	290,252	299,368	307,100	314,493	323,789	332,887	334,774	253,475	

*Revised. †Includes 3,167,000 bbls. formerly classed as refinery stocks. ‡Producers' pipe line and tank farm (but not refinery) stocks of crude oil, residuum and tops (American Petroleum Institute). §Topped oil topped in Mexico. ‡Revised for comparison with figures for 1923. Does not include Mexican petroleum held by importers at refineries.

OKLAHOMA FIELDS

(Continued from Page 40)

poose Oil Co.'s No. 2 Hill, C NE NE NE, Section 9-9-9, was making 1,200 bbls. at 3,323-26 feet. Gilcrease and others' No. 2 Brown, C SW SE SW, Section 17-9-9, was flowing 196 bbls. a day at 3,046-51 feet. The Papoose Oil Co.'s No. 8 Alexander, C SE SE SE, Section 4-19-9, got sand at 3,300 feet and at 6 feet in had made two small flows. Thomas B. Slick's No. 1 Sand, C SW SW SE, Section 35-10-9, filled up 3,300 feet with oil from sand at 3,330 feet. Tanks were being erected.

The Roxana Petroleum Co.'s No. 1 Culler, C NW NE NW, Section 12-8-8, Wewoka Field, had 60,000,000 feet of gas and was spraying oil from sand at approximately 3,400 feet cable measurement.

The Skelly Oil Co. and Cosden Oil & Gas Co.'s No. 1 Wind, NW cor. SE. Section 1-10-9, was dry and abandoned at 3,776 feet.

The Atlantic Oil Producing Co.'s No. 2 Smith, CSL SW NW, Section 35-11-11, made 18 bbls. naturally from sand at 2,508-10 feet.

Moffatt & Slick's No. 1-A, NE cor SW SE, Section 5-11-12, had sand at 2,990 to 3,035 feet with no showing and plugged back to 1,695-1,755 feet where there was a 30-bbl. show. G. F. Haun's No. 1 King, SW cor. SE SW, Section 36-11-12, was dry and abandoned at 3,253 feet.

C. J. Wrightsman's No. 1 Fife, NW cor. SW, Section 11-10-11, was abandoned at 4,014 feet. It was an old well drilled deeper.

The Mid Kansas Oil & Gas Co. has spudded in No. 1, SW cor. NE SE, Section 4-9-11. The Tidal Osage Oil Co. was drilling at 250 feet in No. 13 Baker, SE cor. NW SE, Section 4-9-11.

In Pawnee County Flynn and others' No. 1 Davis, SE cor. SW NW, Section 4-20-5, was drilling below 300 feet. The Davis Drilling Co. was drilling in sand at 3,297 feet with 1,600 feet of oil in the hole in No. 1 White, NE cor. SW, Section 28-20-6. Sand was found at 3,233-53 feet; 3,294-3,297 feet.

Tulsa County

In the Mounds town lot development, in southern Tulsa County, Calvin & Belt have a rig up for No. 1, Lot 4, Block 36, NE cor. SE SW SE, Section 8-16-12. West & Hancock have tools in for No. 1, Lot 5, Block 23, C W half SW SE, Section 8-16-12, and the Noble Oil & Gas Co. has a rig up for No. 1 on Lot 14, Block 25, SW cor. NE SW SE, Section 8.

In the Tulsa district O. O. Owens and others were shut down on top of the Wilcox sand in a test, SE cor. SW NE, Section 13-19-13. C. C. Shaw and others' No. 1-C Grayson, NE cor. NW NW, Section 18-19-14, was drilling at 1,130 feet.

Carter County

In Carter County, the Levant Oil Co.'s No. 1 Brewer, C NW SW SW, Section 27-1s-3w, is a rig. The Tidal Osage Oil Co. has commenced drilling No. 1 Parsons, C SE SW NE, Section 28-1s-3w. The Magnolia Petroleum Corp.'s No. 1 Johnson, C SE SE NE, Section 32-1s-3w, got sand at 2,665 feet. The hole filled 1,500 feet with oil. The sand was broken, total depth, 2,672 feet.

Wirt Franklin's No. 1 Lahman, C NE SE NE, Section 22-2s-3w, is a 250-bbl. well in sand at 2,643-63 feet. The Magnolia Petroleum Co. has a rotary rigged up for No. 4 Williams, C NE SW NE, Section 23-2s-3w.

Max Westheimer abandoned as dry his No. 1 Brooks, C SW SW SW, Section 19-2s-2w. at 2,704 feet.

Miscellaneous Operations

The Marland Refining Co.'s No. 1-F Darst, SW cor. NE NE, Section 27-27-3, Kay County, was drilling at 300 feet.

The Day Oil & Gas Co.'s important test on the Richardson farm, C N half NE NE, Section 9-5-3, Pottawatomie County, which had sand at 3,616 feet, was drilling at 3,670 feet in gray lime with 2,000 feet of oil in the hole.

In western Pushmataha County, Rawson & Vosburgh were drilling below 100 feet in No. 1 Jordan, C SW NE SW, Section 3-2s-15e.

J. T. George abandoned as dry his test, C E half NE NE, Section 31-3s-15e. Pushmataha County, total depth 2,150 feet.

In Choctaw County the Choctaw Petroleum Co. has commenced drilling a test on the Wilson farm, SW cor. Section 15-6s-19e.

The Amerada Petroleum Corp.'s No. 3 Baptiste, NW cor. NE NE NE, Section 29-5s-1e, Brock Pool, Carter County, was a 25-bbl. well at 1,570-82 feet.

The Chicago Oil & Gas Co. has a rig on the ground for a test in the center of the SW SE, Section 17-15-6w, Kingfisher County.

The Tidal Oil Co. is drilling below 875 feet in No. 1 Thomas, C NW NW NW, Section 8-1n-2w, Garvin County.

The Carter Oil Co. is drilling below 850 feet in No. 12 Muller, NE cor. SW NE NE, Section 16-4s-2w, Carter County.

Briscoe & Hall are drilling below 600 feet in in No. 2 Chandler, NE cor. SW SW, Section 26-5n-8w, Grady County. Rymer & Bennett are drilling at 200 feet in No. 1 Carney, NW cor. SW NW, Section 33-1n-7w, Stephens County.

Grimes and others have a failure in No. 1 SE cor. NW, Section 35-9n-25w, Beckham County, at 2,930 feet and it has been abandoned.

Koiri and others have shut down No. 1 NW cor. Section 31-8n-21w, Beckham County, at 900 feet. Norton and others have a rig up for No. 1 Wild, SW cor. NE NW, Section 17-7n-21w.

The Texas Pacific Coal & Oil Co.'s No. 2, C SW SE SE, Section 8-1n-3w. Garvin County, was swabbing 60 bbls. a day from sand at 1,616-30 feet.

The Nambro Oil Co.'s No. 2 Seay, CSL NW SE, Section 33-6s-5w, Jefferson County had a hole full of oil at 1,368-70 feet. It will be tested on the pump.

The Amerada Petroleum Corp.'s No. 1 Kirby, SE cor. NW, Section 20-5s-1e, made a 40-bbl. well at 1,767-95 feet.

Burbank Production

Daily average production in the Burbank Field for the week ended August 6 was as follows:

Company—	Wells	Bbbls.
Carter Oil Co.	187	6,865
Comar Oil Co.	7	214
Cosden Oil & Gas Co.	104	4,627
Devonian Oil Co.	16	229
Gardner Petroleum Co.	20	567
Gypsy Oil Co.	196	7,878
Kewanee Oil & Gas Co.	22	650
Laurel Oil & Gas Co.	16	277
Lorraine Petroleum Co.	15	216
Midland Oil Co.	37	3,584
Mid-Kansas Oil & Gas Co.	39	2,278
Peters & Oliphant	1	127
Phillips Petroleum Co.	69	8,202
Phillips Petroleum Co. and Delmar Oil Co.	16	2,440
Phillips Petroleum Co. and Skelly Oil Co.	169	6,865
Prairie Oil & Gas Co.	106	4,226
Producers & Refiners Corp.	29	556
Roxana Petroleum Corp	57	1,019
Simons, Moore et al	29	351
Sinclair Oil & Gas Co.	145	4,518
Skelly Oil Co.	21	1,516
Tidal-Osage Oil Co.	43	908
Twin State Oil Co.	24	2,057
Total	1,368	60,170
Total last week	1,362	61,973
Difference	6	1,803
Kay County Extension—		
George S. Bole	3	901
Carter Oil Co.	11	1,552
Comar Oil Co.	19	1,282
Cosden Oil & Gas Co.	16	1,590
Gypsy Oil Co.	18	1,300
Laurel Oil & Gas Co.	2	448
Phillips Petroleum Co.	31	4,013
Mid-Kansas Oil & Gas Co.	10	1,515
Prairie Oil & Gas Co.	4	358
Pure Oil Co.	5	76
Roxana Petroleum Corp.	57	1,019
Dye, Tomlinson et al	8	750
Skelly Oil Co. and Phillips Petroleum Co.	20	653
Sinclair Oil & Gas Co.	5	690
The Texas Co.	16	812
Twin State Oil Co.	15	1,119
Total extension	191	17,627
Total last week	190	18,338
Difference	1	711
Total Burbank	1,559	77,797
Total last week	1,552	80,311
Difference	7	2,514

Following are the daily average pipe line runs from the Burbank Field for the week: Gulf Pipe Line Co., 10,749 bbls.; Cosden Pipe Line Co., 8,038 bbls.; Kay County Gas Co., 7,475 bbls.; Osage Pipe Line Co., 1,062 bbls.; Oklahoma Pipe Line Co., 17,195 bbls.; Prairie Pipe Line Co., 6,557 bbls.; Sinclair Pipe Line Co., 5,208 bbls.; Moore Refining Co., 1,929 bbls.; Standish Pipe Line Co., 10,146 bbls.; Empire Pipe Line Co., 1,728 bbls.; Mid-Kansas Oil & Gas Co., 3,793

(Continued on Page 124)

CONDENSED SUMMARY OF STATISTICS OF CRUDE PETROLEUM, 1919-1923
(Barrels of 42 U. S. gallons)

	1919	1920	1921	1922	1923
Production	378,367,000	442,929,000	472,183,000	557,631,000	732,407,000
Imports	52,822,000	106,175,000	125,364,000	127,308,000	82,016,000
Total	431,189,000	549,104,000	597,547,000	684,939,000	814,422,000
Indicated deliveries to domestic consumers	420,462,000	530,532,000	526,032,000	592,432,000	714,316,000
Exports	6,019,000	8,757,000	8,940,000	10,163,000	17,385,000
*Added to stocks	4,708,000	9,815,000	62,575,000	82,244,000	82,721,000
Total	431,189,000	549,104,000	597,547,000	684,939,000	814,422,000

*Pipe line, tank farm and producers' stocks of domestic crude petroleum plus stocks of Mexican petroleum held in the United States by importers elsewhere than at refineries.

Wells

On December 31, 1923, there were approximately 290,100 producing oil wells in the United States, having an average production per well per day of 6.6 barrels. The following table was compiled from reports of companies that operate gathering lines supplemented, for the few small companies that do not maintain lists of wells, with which their lines are connected, by estimates based on reports of producers with whose wells those lines are connected.

Producing Oil Wells in the United States December 31, 1923

	Approximate No. of Wells	Prod. per Well per Day Bbls.
Arkansas	1,970	46.0
*California	9,396	74.9
Colorado	60	3.5
Illinois	16,674	1.8
Indiana—		
Southwestern	1,050	1.8
Northeastern	1,250	.5
Total Indiana	2,300	1.1
Kansas	17,750	4.2
Kentucky	11,700	1.7
Louisiana—		
Northern	3,500	14.6
Coastal	130	48.1
Total Louisiana	3,630	15.8
Montana	280	20.5
New York	14,640	.9
Ohio—		
Central and eastern	20,650	.6
Northwestern	18,900	.3
Total Ohio	39,550	.5
Oklahoma	57,500	6.9
Pennsylvania	74,000	.5
Texas—		
Coastal	2,270	32.1
Rest of State	16,980	17.4
Total Texas	18,250	19.3
West Virginia	20,100	.8
Wyoming	2,300	59.7
Total	290,100	6.6

*Pacific Coast office. American Petroleum Institute; wells temporarily shut in not included.

THEY DECIDED TO WAIT FOR COOPERS

THE Cerritos Gas Company of Los Angeles, California, made a quick decision to install a gas compressing station requiring five 160 H. P. gas engines. At least two makes of engines were available in California warehouses for immediate delivery and, although the station was to be a rush job, they decided to wait for Coopers. Their real reason was that they already knew from personal experience what they could expect from Cooper engines and compressors.

It is true that there are a number of superior features in the design of Cooper engines, and that we use extraordinary care in the selection of materials and in building them, but we cannot expect you, who have not yet tried a Cooper engine, to fully appreciate all this. The better and safer way is to accept the judgment of the large number of companies who, because of their experience, will wait, if necessary, for Cooper equipment.

The C&G COOPER CO.

MT. VERNON, OHIO
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1605 KIRBY BUILDING, DALLAS, TEXAS.

Since 1833 Engineers and Builders

North-Central Texas Field

By Dan F. Dugan

Panhandle Oil & Refining Co.'s No. 3 Orton, Archer County, largest initial producer in north section, pumping 300 bbls. daily. Humble Co. reported planning line from Breckenridge to Iowa Park, giving Wichita and North Texas direct outlet to deep water. Roeser-Pendleton Co. finds new pay.

FORT WORTH, Tex., Aug. 11.—Production in the North Central Texas Field reported for the week exceeds the previous week's totals by 770 bbls. daily. Increases in the Electra district were 650 bbls.; Stephens County, 380, and the wildcat pools 410 bbls. daily. Losses were reported from Burkburnett, 345 bbls.; Iowa Park, 85, and Eastland County 240 bbls. Production for the seven-day period amounted to 123,385 bbls. daily.

The number of completions made the past week was less and shows a marked decrease in initial production compared with previous weeks. In the north section of the field 31 tests were completed, of which 15 were oil producers and 16 were dry holes. In the south territory 18 completions were reported, 6 were oil producers, 11 were disappointments and one gas well. Summed up, 49 tests were finished, 21 produced oil, 27 dry and one gasser. The Big Lake Oil Co.'s No. 11 University in Reagan County, is now credited with flowing 2,970 bbls. in 24 hours at 3,040 feet. The largest initial producing completion in the north section was the Panhandle Oil & Refining Co.'s No. 3 Orton in Archer County, it is pumping 300 bbls .daily at 1,792 feet. Several other wells are showing from 100 to 200 bbls. daily.

Breckenridge Pipe Line

It is reported that preparations are being made by the Humble Pipe Line Co. to rush a new pipe line from Breckenridge, Stephens County, to its gathering system in the Iowa Park district in Wichita County. The right-of-way is reported as secured and the greater part of the pipe is in transit. The line, which will be approximately 100 miles in length, will contain 60 miles of 6-inch and the remainder 4-inch. A number of lateral lines will cover the Swastika, Wilmot, Holilday and other pools in Archer County. With the acquisition of this new carrier, the Wichita Falls and North Texas districts will have a direct outlet to deep water, the termnius being located at Texas City. Two gangs of men will begin in the next few days, one at the north end and the other at Breckenridge to string what pipe has arrived.

On account of the abandonment of many oil wells in the city limits of Burkburnett with their derricks still constituting a menace to adjoining property, city officials have given notice that all such derricks must be razed at once or prosecutions will follow in accordance with ordinances of the city governing the operations of oil wells within the city limits.

Reagan County Producers

There are no authentic reports available as to what is being done at the Texon Land & Development Co.'s No. 1 University well in Reagan County. The well is at least 1 mile from production. Estimates by scouts credit the well as being around a 30-bbl. a day producer at about 3,025 feet. It will probably require deeper drilling and a gauge to determine what the well will eventually make.

A new producing pay was found this week in the Roeser-Pendleton Co.'s well which is drilling about half a mile west of that company's gasoline plant No. 1 in the Curry Pool, Stephens County. At 4,006 feet the well suddenly blew in as a gasser, estimated to be making 6,000,000 feet and spraying oil. A little deeper drilling is expected to pick up an oil sand.

Pipe line connections with The Texas Co.'s lines were completed today for the Wade-Hogan and others' No. 2 Alexander, Survey 4, Lunatic Asylum lands (Shackelford County). This well, which has been making 150 bbls., is considered important, as it marks an extension of the Sedwick Pool a full 2½ miles in the direction of Albany. The producing sand is found at a depth of 539 feet.

Archer County Tests

While the test of the Eagle Creek Oil Co.'s No. 1 Cheeves in Block 1 in the Ragle area has continued as the interesting test in this territory for the past week, developments have been of a rather disappointing nature, as several cores taken have not shown sufficient oil to warrant much hope of its making a producer.

Two producers have been added to the Swastika Field by the completion of the McLain and others' No. 1 Richardson in Block 15 for a 35-bbl. well from a sand at 1,347 feet. The Shamrock Oil Co. has also completed its No. 2-B Richardson with a production of 100 bbls. at 1,322 feet.

The largest producer completed in the county during the week was the Panhandle Oil Refining Co.'s No. 3 Orton for 300 bbls. at 1,792 feet. Near completions showing for a substantial production were few in number, only one of any size was reported. The Saunders and others No. 1 Logan is showing around 75 to 100 bbls. a day and not yet completed at 1,280 feet.

Wichita County Semi-Completions

Four semi-completions were reported the middle of the week, all of them located in the south producing section of the county, two in the Hill and Roberts area, one on Beaver Creek and one southeast of Electra.

In the Beaver Creek district Lee and others' No. 2 McCarty has 5 feet of pay topped at 1,690 feet and the well swabbed 180 bbls. of oil the first 18 hours.

Bower and others' No. 3 Peeler in the Hill & Roberts area found the oil sand at 1,768 feet and drilled it 3 feet. The well swabbed 200 bbls. the first 24 hours. In the same district J. A. Gardner and others' No. 2 Peeler found an oil sand at 1,667 feet and drilled to a total depth of 1,670 feet. This well swabbed 250 bbls. the first 24 hours.

Southeast of Electra the Burnett Ranch Oil Co.'s No. 4 Burnett has five feet of oil sand at a total depth of 1,815 feet and is swabbing at the rate of 150 bbls. daily.

Clay County is receiving more play from operators at present than for some time with nine tests under way. Two are in the Finley Field, 10 miles northeast of Wichita Falls, three are on the Stine Ranch, in the vicinity of the Cumley-Callendar well, the fifth, by E. J. Strump and associates, is on the Ashland farm, northwest of Petrolia. It is now down around 1,400 feet. The others are scattered over the county.

Stephens County

Completions: Critten and others' No. 2 Cunningham, 200 bbls. at 3,295 feet; same company's No. 3 Cunningham, 300 bbls. at 3,285 feet; Marchbanks and others' No. 1 Hudspeth, 100 bbls. at 3,286 feet; Haile and others' No. 2 Jones, dry at 3,967 feet; Magnolia Petroleum Co.'s No. 1 Gardner, dry at 4,515 feet; The Texas Co.'s No. 40-A Parks, 5 bbls. at 3,375 feet.

Drilling: Brown and others' No. 1 Hudspeth, drilling in black lime without any oil showing at 3,215 feet; Critten and others' No. 6 Cobb, drilling at 1,035 feet; Ivan Petroleum Co.'s No. 2 Martin, showing 8,000,000 feet of gas and spraying some oil and drilling in gray lime at 3,950 feet; Liner and others' No. 2 Brown, drilling at 1,475 feet; Mid-Kansas Oil & Gas Co.'s No. 2 Lowe, drilling in rock at 3,150 feet; No. 3 Lowe, pulling 12½-inch casing at 950 feet; No. 4 Lowe, drilling at 2,215 feet; No. 3 Richardson, drilling by casing at 3,185 feet; Prairie Oil & Gas Co.'s No. 15 Atkins is trying to shut off water at 3,263 feet; No. 1 Caldwell, running 8-inch casing at 2,350 feet; Raney Buckeye Oil Co.'s No. 2 Walker & Caldwell, drilling in black lime at 3,840 feet; Rochelle and others' No. 2-A Sweeney, fishing for casing at 1,400 feet; No. 3-A Sweeney, drilling at 2,255 feet; Swasey and others' No. 2 Conger, drilling at 2,250 feet; Texas Pacific Coal & Oil Co.'s No. 5 Rogers, sidereaming 5-inch casing at 4,175 feet; Brown and others' No. 4 Brown, drilling in gray lime at 3,300 feet; Christie and others' No. 1 Gardenshire, drilling at 1,130 feet; Ice and others' No. 1 McClesskey, fishing for casing at 695 feet; Little and others' No. 2 Drake, drilling by casing at 3,650 feet; Magnolia Petroleum Co.'s No. 9 Brown, drilling by tools at 3,120 feet; No. 2 Brown, running 5-inch casing at 3,840 feet; No. 5 Brown, pulling 5-inch casing at 3,820 feet; No. 6 Brown, drilling by tools at 3,215 feet; No. 1 Taylor, drilling at 2,000 feet; Pitzer and others' No. 1 Stoker, drilling in hard rock at 4,010 feet; Prairie Oil & Gas Co.'s No. 1 Stoker, fishing for casing at 3,875 feet; Republic Production Co.'s No. 4 Jones, runnning 10-inch casing at 2,175 feet; Root and others' No. 1 Yoes, showing 2,000,000 feet of gas and drilling at 1,795 feet; Seaboard Oil & Gas Co.'s No. 1 McClesskey, drilling in shale at 3,100 feet; Sinclair Oil & Gas Co.'s No. 9 Henderson, plugging off water at 3,194 feet; Snowden & McSweeney's No. 1 Jones, running 5-inch casing at 3,895 feet; States Oil Corp.'s No. 1 Sipes, running 6-inch casing at 3,360 feet; No. 1 Williamson, drilling in lime at 3,900 feet; Sun Oil Co.'s No. 11-A Rosenquest, drilling at 1,700 feet; The Texas Co.'s No. 8 Heathley, drilling at 2,900 feet; Texas Pacific Coal & Oil Co.'s No. 1 Hand, fishing for casing at 2,152 feet; No. 1-B Winston, showing some gas and

East Central Texas

By Staff Correspondent

CORSICANA, Tex., August 9.—The past week in the East Central Texas Field was one mostly of routine work. Little new work was started, even in the Richland Field, which is the busiest of the fields in the East Central area at this time. Powell is very quiet and the wildcatting districts showed no more activity than for several weeks past.

Powell Completions

Completions in the Powell Field included the Simms Oil Co.'s No. 1 Collins, Smith survey, top of sand at 807 feet, total depth 1,196 feet, 2 bbls.; Elliott & others' No. 5 Hill, Smith survey, sand at 2,847-2,955 feet, 220 bbls.; McIntyre and others' No. 1 Alexander, Smith survey, sand at 2,860 feet, total depth 3,068 feet, 200 bbls.. 60 per cent water; Brandon & McCamey's No. 8 Woolens, Matthews survey, 2,000,000 feet of dry gas from sand at 950 to 1,013 feet.

Richland Field

In the Richland Field Oxford Oil Co.'s No. 2-A Davis, Choate survey, was a 250-bbl. well at 2,930-70 feet. The same company's No. 2 Davis, Choate survey, produced 135 bbls. of oil and 15 bbls. of water from sand at 2,920-76 feet. The Sun Oil Co.'s No. 10 Brown, White survey, flowed 800 bbls. the first 24 hours from sand at 2,935-50 feet.

E. L. Smith and others have a derrick up for No. F. C. Richland, White upper survey. The Sims Oil Co. has commenced drilling No. 1 Richland Fishing Club. Peyton and others have a derrick up for No. 3 Davis, Choate survey. The Sun Co. has a rig up for No. 12 Brown; is rigging up on No. 13 Brown and has located No. 14 Brown. Collins and others are shut down for orders with only a small showing on No. 1 Fishing Club, total depth 2,923 feet. Moore & Hamill had a very small showing in No. 1 A. A. Brown, total depth 2,929 feet. McDonald's No. 1 C. H. Graves, tested salt water at 3,040 feet. Miller Lewis' No. 1 Swink, tested salt water at 3,093 feet. Sun Oil Co.'s No. 1 Brown, tested salt water and showed very little oil, 2,944 to 2,979 feet.

Other Richland operations were Boyd Oil Co.'s No. 1 A. A. Allison, total depth 3,007 feet, trying to shut off top water; McDonald and others' No. 4 A. Brown, drilling at 2,945 feet; R. Smith and others' No. 1 S. T. Green, shut down at 2,976 feet, with no showing; McDonald and others' No. 1 S. T. Green, drilling at 3,648 feet. O'Bourne and others' No. 1 Bounds, derrick up; McIntyre and others, No. 1 Richards, shut down at 2,685 feet; Atlantic Oil Producing Co.'s No. 2 Richards, drilling at 2,830 feet; Boyd Oil Co.'s No. 8 Webb, drilling at 2,705 feet; Cranfill & Penn & Shamrock Oil Co.'s No. 1 West, drilled at 2,236 feet; Derby Oil Co.'s No. 2 Davis, rigged up; Goldey Oil Co.'s No. 7 Allison, top of sand at 2,938-78 feet, preparing to test; No. 8 Allison, sand at 2,938-70 feet, preparing to pump; Godley Oil Co.'s No. 9 Allison, drilling below 1,800 feet; Gulf Production Co.'s No. 1 Elkin, fishing for stem at 2,365 feet; No. 2 Elkin, drilling at 400 feet; J. K. Hughes Oil Co.'s No. 4 West, drilling at 2,965 feet; E. C. Meade and others' No. 1 Davis, drilling at 2,965 feet, top of sand at 2,955 feet, small showing of oil; G. I. Moore No. 1 West, a derrick; Oxford Oil Co.'s 3-A Davis, derrick; No. 4-A Davis, drilling at 150 feet; Peyton and others' No. 2 Davis, set 6⅝-inch pipe at 2,907 feet; Rowan and others' No. 2 Choate, drilling at 2,300 feet; Sun Co.'s No. 8 Brown, drilling below 1,000 feet; No. 11 Brown, drilling below 2,880 feet; No. 12 drilling at 300 feet; No. 13 rigged up. Simms Oil Co.'s No. 2 Allison, drilling at 2,400 feet; Tucker and others' No. 4 Davis, drilling at 1,100 feet. Tucker & Fox's No. 2 Davis, casing set at 2,890 feet.

In Milam County, F. C. Nelson's No. 1 Letters, Acosta survey, was abandoned at 3,000 feet.

In Limestone County, Gardner and others are rigged up for No. 1 Speight, Varola survey.

Why Bethlehem developed an American oil engine

THE savings in fuel costs that go with the use of oil engines of the Diesel type, and the successful results that have followed the increasing use of this type of engine, forecast the wide adoption by industry of oil engine power.

For many years Bethlehem engineers have successfully designed and built large internal combustion engines. With this experience as a background, they made a complete investigation of the trend of American power plant practice, as well as an examination of existing Diesel engines.

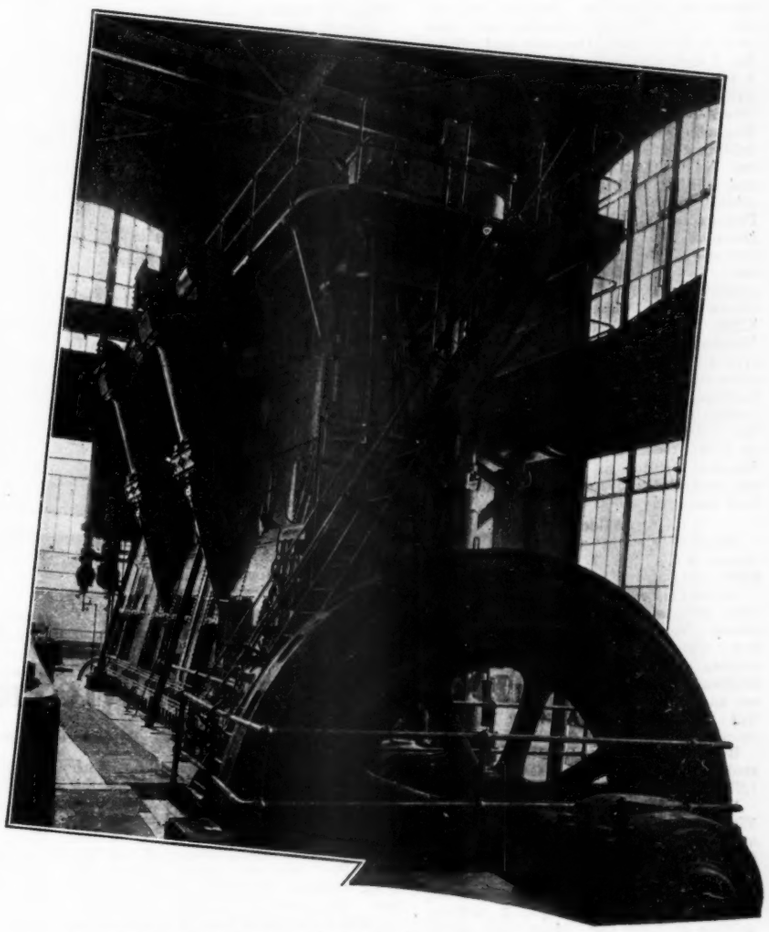
To meet American Requirements

The results demonstrated the real need of an oil engine that would be, not an adaptation of European practice, but an engine of exclusively American design—an engine that would surpass any existing oil engine in ability to meet the peculiar, severe requirements of American power users.

It was to fill that need that the Bethlehem Oil Engine was designed and built.

The Bethlehem Oil Engine is of the two-cycle type. It has mechanical features which we believe are worthy of note and which we shall be glad to explain to any interested engineer or executive. It can handle the heavy grades of fuel distillates. It is very simple and compact, and is substantially built. Critical tests have repeatedly proved its high fuel economy and its ability to carry full load over long periods without faltering.

A catalog describing the Bethlehem Oil Engine more in detail will be mailed on request.



The Bethlehem Oil Engine is built in units of 2, 4, 6 and 8 cylinders. Fuel is injected into the cylinders in a highly atomized state by the aid of compressed air, ignition being caused solely by the heat of the compressed air into which the fuel is injected.

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BETHLEHEM OIL ENGINE *Large Unit Type*

drilling at 2,210 feet; Thompson and others' No. 4 Williams, drilling at 1,670 feet; Triplehorn Co.'s No. 1 Adams, drilling at 850 feet;

Eastland County

Completions: Haynes and others' No. 1 Howard, dry at 1,235 feet; Humble Oil & Refining Co.'s No. 4 Sneed, dry at 1,220 feet; Panhandle Oil & Refining Co.'s No. 21 Hightower, 20 bbls. at 1,250 feet; Thornell and others' No. 1 Stubblefield, 11,000,000 feet at 3,150 feet.

Drilling: Arkansas Fuel Co.'s No. 3 Lyerla, drilling at 500 feet; Brothers Oil Co.'s No. 1 Watson, drilling at 2,120 feet; Buffington and others' No. 1 Foster, fishing job at 900 feet; Barkley and others' No. 5 Wright, cleaning out after shot at 3,748 feet; Donnelly and others' No. 1 Fox, spudding; Dixie Oil Co.'s No. 1 Waggoner, showing 20 bbls. of oil and will shoot at 3,685 feet; Hamilton and others No. 1 Fox, drilling at 100 feet; Magnolia Petroleum Co.'s No. 4 Edison, drilling at 1,900 feet; McLester and others' No. 1 Gailey, showing some water and drilling at 3,100 feet; Lebaugh and others' No. 2 Holcomb, ready to spud; Panhandle Oil & Refining Co.'s No. 6 Holcomb, fishing at 600 feet; Parsons and others' No. 1 Moles, drilling at 2,800 feet; Pennok Oil Co.'s No. 7 Parton, repairing rig at 800 feet; Bobo and others' No. 1 Amis, casing collapsed at 3,298 feet; Cardinal Oil Co.'s No. 2 Matthews, drilling at 1,150 feet; Daugherty and others' No. 1 Johnson, bridged after shot and cleaning out at 3,280 feet; Graham and others' No. 1 McDonald, drilling at 475 feet; McBride and others' No. 1 White, preparing to pump and test at 2,797 feet; The Texas Co.'s No. 1 Ramsey, drilling at 2,200 feet; Turner and others' No. 3 Jones, fishing for 6¼-inch casing at 2,400 feet.

Wildcats

Mitchell County—Completions: California Co.'s No. 1 Morrison, dry at 5,305 feet.

Drilling: Eddleman and others' No. 1 Gist, drilling at 1,635 feet; Hanes and others' No. 1 Brown, drilling at 385 feet; California Co.'s No. 9 Morrison, drilling at 3,875 feet; No. 10 Morrison, drilling at 2,320 feet; No. 11 Morrison, set and cemented 6-inch casing at 2,842 feet; Tidal Oil Co.'s No. 1 Handley, running 6-inch casing at 2,750 feet.

Brown County—Completions: Mahlstedt and Mook's No. 1 Gains, dry at 1,370 feet.

Drilling: Anderson and others' No. 1 Wheeler, drilling at 1,410 feet; Avery and others' No. 3 Cox, drilling at 1,440 feet; Curry and others' No. 1 Chambers, drilling at 215 feet; Gump and others' No. 1 Moore, drilling at 1,200 feet; Mahlstedt and Mook's No. 1 Gafford, drilling at 1,070 feet; Moore and others' No. 1 Chambers has 1,000 feet of oil in hole and drilling at 1,220 feet; Moore and others' No. 1 Teston, spudding; Omaha Southern Oil Co.'s No. 2 Gains, drilling at 1,795 feet; Simms Oil Co.'s No. 1 Gains, showing oil and drilling at 1,300 feet.

Comanche County: Spratt and others' No. 1 Martin, dry at 3,780 feet.

Reagan County—Completions: Associated Oil Co.'s No. 1 University, dry at 3,500 feet; Big Lake Oil Co.'s No. 6 University, dry at 3,320 feet; same company's No. 7 University, dry at 3,310 feet; same company's No. 11 University, 2,940 bbls. at 3,040 feet; Texas Pacific Coal & Oil Co.'s No. 1 Walters, dry at 3,235 feet.

Drilling: The Texon Land & Development Co.'s No. 1 University, showing around 30 bbls. a day production and drilling at 2,870 feet; No. 2 University, set 8-inch casing at 2,670 feet.

Shackelford County: Cerf and others' No. 1 Poindexter, underreaming casing at 1,890 feet; Kellogg and others' No. 1 Sedwick, underreaming at 2,700 feet; Landreth Production Co.'s No. 3 Lynch, running 12½-inch casing at 900 feet; Magnolia Petroleum Co.'s No. 3 George, drilling in rock at 3,500 feet; McMahon and others' No. 2 Lynch, drilling in shale at 1,650 feet.

Palo Pinto County: Guarantee Oil Co.'s No. 1 Mosley, drilling at 945 feet; Tolbert and others' No. 1 Slimp, drilling in soft rock at 350 feet; Owens and Burkett's No. 1 Wheeler, fishing at 3,050 feet; Craig and others' No. 1 Jones, drilling at 1,100 feet.

Callahan County: Bryant and others' No. 1 Forbes, drilling at 2,240 feet; Dudley Oil Co.'s No. 1 Moore, trying to set packer and will drill deeper at 1,830 feet; Kellogg and others' No. 1 Snyder, drilling at 950 feet; Pruitt and others' No. 1 Bailey, fishing job at 650 feet; No. 1 Betcher, drilling at 700 feet; Poe and Wilson and others' No. 6 Albin, drilling in soft rock at 1,500 feet; Texas Co.'s No. 1 Isenhower, spudding; Texas Pacific Coal & Oil Co.'s No. 1 Biggerstaff, fishing for tools at 1,170 feet.

Production Report
Week Ending August 7, 1924

Burkburnett		
Barkley & Meadows	1,225	
Humble Oil & Refining Co.	520	
Gulf Production Co.	950	
Magnolia Petroleum Co.	3,200	
McMahon Oil Co.	420	
Panhandle Oil & Refining Co.	400	
Prairie Oil & Gas Co.	10	
Sinclair Oil & Gas Co.	85	
The Texas Co.	570	
Texhoma Oil & Refining Co.	460	
Miscellaneous	11,275	
Total		19,115
Electra		
Empire Gas & Fuel Co.	1,240	
Humble Oil & Refining Co.	250	
Griswold Oil Co.	235	
Gulf Production Co.	1,065	
Magnolia Petroleum Co.	4,300	
McMahon Oil Co.	200	
Panhandle Oil & Refining Co.	75	
The Texas Co.	4,420	
Texhoma Oil & Refining Co.	2,405	
Miscellaneous	7,135	
Total		21,325
Iowa Park, Etc.		
Griswold Oil Co.	40	
Gulf Production Co.	40	
Humble Oil & Refining Co.	50	
Panhandle Oil & Refining Co.	235	
Texhoma Oil & Refining Co.	30	
Miscellaneous	4,326	
Archer County—		
Empire Gas & Fuel Co.	1,350	
Griswold Oil Co.	740	
Gulf Production Co.	310	
Humble Oil & Refining Co.	120	
Magnolia Petroleum Co.	145	
Panhandle Oil & Refining Co.	300	
Prairie Oil & Gas Co.	1,730	
The Texas Co.	495	
Texhoma Oil & Refining Co.	2,805	
Miscellaneous	20,990	
Petrolia—		
Gulf Production Co.	60	
Magnolia Petroleum Co.	35	
The Texas Co.	85	
Miscellaneous	300	
Total		34,285
Stephens County		
Empire Gas & Fuel Co.	100	
Gulf Production Co.	1,880	
Humble Oil & Refining Co.	1,390	
Magnolia Petroleum Co.	1,435	
Mid-Kansas Oil & Gas Co.	1,905	
Prairie Oil & Gas Co.	725	
Sinclair Oil & Gas Co.	185	
The Sun Co.	500	
The Texas Co.	2,315	
Texas Pacific Coal & Oil Co.	1,330	
Miscellaneous	9,170	
Total		20,735
Eastland County		
Gulf Production Co.	420	
Humble Oil & Refining Co.	100	
Magnolia Petroleum Co.	320	
Panhandle Oil & Refining Co.	400	
Prairie Oil & Gas Co.	700	
Sinclair Oil & Gas Co.	525	
The Texas Co.	400	
Texas Pacific Coal & Oil Co.	860	
Miscellaneous	3,180	
Total		6,905
Other Fields		
Strawn—		
Texas Pacific Coal & Oil Co.	315	
Miscellaneous	505	
Moran—		
Empire Gas & Fuel Co.	80	
Humble Oil & Refining Co.	510	
The Texas Co.	160	
Texhoma Oil & Refining Co.	170	
Miscellaneous	2,720	
Coleman County—		
Miscellaneous	140	
Brown County—		
Miscellaneous	500	
Comanche-Eastland—		
Humble Oil & Refining Co.	200	
Magnolia Petroleum Co.	1,070	
Prairie Oil & Gas Co.	200	
Sinclair Oil & Gas Co.	60	
The Texas Co.	220	
Texas Pacific Coal & Oil Co.	145	
Miscellaneous	4,580	
Young County—		
Gulf Production Co.	90	
Sinclair Oil & Gas Co.	490	
Panhandle Oil & Refining Co.	250	
The Texas Co.	70	
Miscellaneous	3,300	
Mitchell County	1,310	
Reagan County	2,670	
Jack County	25	
Scurry County	50	
Carson County	1,110	
Hutchinson County	50	
Total		21,020
Total this week		123,355
Total last week		122,615
Gain		770

(Continuel on Page 90)

News of Mexican Fields

By George Blardone

TAMPICO, Mexico, August 9.—With 15 wells completed in Mexican fields the past week only two can be ranked as producers, 13 being relegated to the discard. La Corona Petroleum Co.'s No. 107, Lot 1 Cacalilao sector of the Panuco Pool was the banner completion, being rated a 10,000-bbl. well at 1,884 feet. The other completion in the pay belongs to International Petroleum Co. (No. 87, Lot 5), rated at 1,000 bbls. at 2,175 feet. The failures in the Panuco Field follow: Credito Petrolero's No. 2, Lot 17 Lomas y Llanos, near the old "Devil's Elbow" sector is a failure at 2,328 feet. La Corona Petroleum Co.'s No. 102, Lot 1 Cacalilao, is a dry hole at 1,908 feet; International Petroleum Co., and Mexican Sinclair Petroleum Corp., both scored one dry hole each in lots 5 and 3 Cacalilao respectively, while Transcontinental Petroleum Co.'s No. 86, Lot 4 there, drilled into salt water at 1,990 feet. Sol Oil Co.'s drilling in the Federal zone. No. 2 Tanchisol in the older Panuco, was finished a duster at 2,000 feet.

Other northern fields districts had the following failures: Cortez Oil Corp.'s No. 5, Lot 58 Lagartero, finished a duster in the white limestone at 3,211 feet. This test is credited to Topila although it is actually south of production in the pool. In El Bareo, Mexican Gulf Oil Co.'s No. 32 quit at 2,700 feet. In Elbano, Mexican Petroleum Co.'s No. 37 LaDicha is a dry hole at 2,500 feet. Near Tampico, in Caracol, Venable and others' No. 1, Lot 21 Caracol is a failure at 2,710 feet, the Tamasopa being claimed as the finishing formation, and the same, No. 1, Lot 42, is being abandoned at over 2,500 feet, despite showings of oil, but little or no gas. This well was shot but without avail.

In the South Fields, Penn Mex Fuel Co.'s No. 3 Jardin drilled into the salt water a sub-sea level of 2,218 feet, which marks it a deeper hole than other wells in that sector. Up in the Toteco, International Petroleum Co. has quit its No. 22-A, which was a deep test on the western boundary of the district up on the rising ground of the hills approaching the Tancoco mountains. It was a duster at a sub-sea level of 2,386 feet, the elevation there being over 1,100 feet.

Panuco-Cacalilao

Field operations in the Cacalilao sector of the Panuco Pool continue as follows: La Corona Petroleum Co.'s operations in Lot 4; Nos. 106, 108, 113 drilling in limestone at 1,960, 2,050 and 1,720 feet respectively; No. 114 cemented 8-inch in the San Felipe at 1,190 feet; No. 117 rigging; No. 118 running 8-inch at 1,150 feet in the San Felipe; Nos. 119 and 121 drilling in shales at 500 and 270 feet respectively. In Lot 1, Nos. 104, 105 drilling in the Sn Felipe at 1,605 and 1,471 feet respectively; No. 109 drilling in blue shale at 810 feet; No. 110 drilling in black and white lime at 1,800 feet; No. 111 drilling in green lime at 1,570 feet; No. 112 drilling in brown lime at 1,700 feet, and No. 116 drilling in blue shale at 1,070 feet. International Petroleum Co.'s operations in lots 4 and 5 follow: No. 51 spudding; No. 56 in gray lime at 1,820 feet; No. 61 in the same formation at 1,685 feet, with a small showing higher up; No. 79-A in gray shale at 1,840 feet; No. 88 shut down for orders in the white lime at 2,100 feet; No. 81 drilling in white and gray lime at 2,370 feet; No. 82 is in gray lime at 1,710 feet; No. 83 rigging; No. 89 in gray shale at 590 feet; No. 96 cemented 8-inch in the pink sands at 1,400 feet; No. 97 drilling in gray lime at 1,240 feet; No. 98 cemented 8-inch in the San Felipe at 1,135 feet; No. 99 drilling in gray shale at 365 feet; No. 100 cemented 10-inch in the San Felipe at 1,205 feet. Over in Nacata, to the west, No. 93 is drilling in white lime and chert at 2,165 feet, while No. 94 is drilling in gray shale at 500 feet.

Mexican Gulf Oil Co.'s No. 21, Lot 1 Cacalilao is drilling in the San Felipe at 1,462 feet; No. 27, same, in a hard shale at 730 feet; No. 66 rigged, waiting permit, Mexican Sinclair Petroleum Corp.'s No. 7, Lot 2, is clearing location; No. 98, same, drilling in shale at 300 feet. In Lot 3 its operations follow: Nos. 55 and 56 are derricks; No. 65 is in the San Felipe at 1,420 feet; No. 71 in blue shale at 650 feet; No. 73 in the San Felipe at 1,545 feet. Transcontinental Petroleum Co.'s operations in Lot 4 follow: No. 7 is drilling in lime at 2,150 feet; No. 39 in shale at 540 feet; No. 94 has crooked hole at 2,000 feet in lime; No. 90 cemented 8-inch in the San Felipe at 1,300 feet; No. 111 drilling in lime at 1,920 feet and gassing; Nos. 103 and 115, Lot 2, both in lime at 1,820 feet and 1,700 feet respectively; in Lot 5 No. 119 continues cemented at 1,300 feet; No. 120 is drilling in shale at 420 feet; No. 121 cemented 10-inch in the San Felipe at 1,225 feet; No. 122 drilling in shale at 1,200 feet, while just north of Cacalilao, in the Paciencia, No. 7 is drilling in the San Felipe with a showing at 1,500 feet.

Panuco Old Sectors

In the old Panuco operations are as follows: Aloya and others' No. 1 Tamplache cemented 8-inch in gray lime at 1,350 feet. Credito Petrolero's No. 1, Lot 13 Lomas y Llanos is drilling in shale at 410 feet. English Oil Co.'s No. 6 Tampuche is drilling in shale at 425 feet. East Coast Oil Co.'s No. 19 Estero Grande cemented 8-inch at 1,462 feet in a hard gray shale; No. 437 Ingenio has done the same at 1,255 feet in a similar formation, and No. 216 Halcon is drilling in shale at 930 feet. Mexican Sinclair Petroleum Corp.'s No. 4 Tananture is drilling in blue shale at 375 feet, and No. 6 Zurita cemented 8-inch in the lime at 1,216 feet. Cia. Pet. Meridional, No. 8, Lot 6 Camolote, is drilling in gray lime around 2,125 feet. New England Fuel Oil Co.'s No. 15 Piazzi is drilling in lime at 1,625 feet. Panuco Boston Oil Co.'s No. 1, Lot 5 Isleta is drilling in shale at 1,110 feet. The Texas Co.'s No. 7 Cicero is drilling in lime at 1,625 feet. Williamson and others' No. 1-B, Lot 4 La Canoa, is drilling in hard shale around 1,300 feet; No. 3-A, same, cemented 8-inch in the San Felipe at 1,593 feet, and No. 3-B, same, is drilling in the San Felipe at 1,584 feet.

South Fields

In the South Fields, Huasteca Petroleum Co.'s (Mexican Petroleum), No. 46 Cerro Azul is drilling in basalt at 1,070 feet, and No. 47 is in blue shale with traces of shell at 320 feet. In Tierra Blanca its No. 24-A is drilling in brown shale at 1,763 feet; No. 28 is moving in; and No. 29 is drilling in gray shale at 1,794 feet, and up in Tres Hermanos No. 8 is drilling in hard shale at 490 feet. La Corona Petroleum Co.'s No. 4-A, Lot 31 Zacamixtle is drilling in white lime at 2,304 feet. Cortez Oil Corp.'s No. 8 Aguada is drilling in the San Felipe at 4,302 feet. Mexican Gulf Oil Co.'s No. 5, Lot 8 Tepetate, is drilling in gray shale at 1,940 feet. Mexican Eagle Oil Co.'s No. 35-A, Lot 132 Amatlan is drilling in shale and shell at 1,810 feet; No. 36, Lot 131 Chinampa drilling in shale at 1,790 feet, and No. 25 Alazan drilling in the same formation at 613 feet.

Miscellaneous Tests

In the northern fields operations follow: At Topila, Credito Petrolero's No. 4, Lot 6 Pac. de Aguacate, is drilling in the San Felipe at 2,039 feet. La Espuela Oil Co.'s No. 5, Lot 45, same sector, is drilling in shale at 250 feet. Hicks and others' No. 11, Lot 6 there is drilling around 2,175 feet in the San Felipe.

In Ebano, Mexican Petroleum Co.'s No. 26 Chijol is drilling in green lime at 1,250 feet; No. 36 La Dicha is in a lime at 1,680 feet; No. 38, same, is at 1,960 feet in the same formation, while No. 41 offset to Transcontinental Petroleum Co.'s big surprise well in the northwest part of Lot 5 Cacalilao, is running 10-inch at 1,260 feet in a limestone. Mexican Petroleum hs also come east near

(Continued on Page 122)

THREE TYPES

of GUIBERSON Bottom Water Plug

The GUIBERSON Bottom Water Plug is made in three styles to serve every possible requirement of the industry. The Standard Plug (left) is for setting off bottom. The Collapsible Core Plug is for setting against extreme bottom, and occupies when collapsed, only about 2 feet in the bottom of the hole.

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GUIBERSON
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North Louisiana-Arkansas

By M. L. Vaughn

Cherokee Petroleum Co.'s No. 3 Burton and No. 6 Burton, Union County, swab 400 bbls. each. Simon and others' No. 1 Burton flows 300 bbls. The Texas Co.'s No. 6 Hedgwood and United Oil Corp.'s No. 1 Burton swab 300 bbls. each. Oil Fields Gas Co. deepens small pumper in Cotton Valley.

SHREVEPORT, La., Aug. 11.—Production continues on the decline in both the Louisiana and Arkansas Fields, most noticeable, however, in the Smackover district in Arkansas. Runs from the Smackover Pools during the past week averaged 128,610 bbls. a day, a decrease of 3,260 bbls. from that of the past week, while the decrease from the entire Arkansas Field was 3,455 bbls. Louisiana production averaged 55,890 bbls. a day, a decrease of 755 bbls. Cotton Valley production dropped from 7,050 to 6,830 bbls. a day, with slight declines in all other Louisiana fields. Production from both fields averaged 200,805 bbls. a day, distributed as follows:

North Louisiana	
Bellevue	4,730
Caddo light	10,320
Caddo heavy	2,500
Cotton Valley	6,830
De Soto and Red River	4,505
Elm Grove	830
Haynesville	18,420
Homer	7,755
Total	55,890
South Arkansas	
El Dorado	12,685
Nevada County	1,340
Smackover light	35,410
Smackover heavy	93,200
Stephens	2,280
	144,915
Total both fields	200,805
Total previous week	205,015
Decrease	4,210

Competions—Union County, Arkansas

Fourteen completions in the Union County area of the Smackover Field, 12 of them producers, added 2,200 bbls. to the output of this district. The following three tests were abandoned: Constantin Oil & Refining Co.'s No. 1 Morgan, Section 2-18-16, 2 miles southwest of El Dorado, at 3,015 feet; Humble Oil & Refining Co.'s No. 1 Cordell, Section 1-18-14, 9 miles east of El Dorado, at 3,125 feet, and Umstead and others' No. 1 Cargile, Section 6-16-14, 9 miles north of El Dorado, at 2,785 feet.

The Arkansas Fuel Oil Co. completed No. 4 Alphin, Section 11-16-15, pumping 75 bbls. at 1,995 feet.

The Cherokee Petroleum Co.'s No. 3 Burton, Section 23-16-16, is swabbing 400 bbls. at 2,080 feet, and No. 6 Burton, same section, swabbing 400 bbls. at 2,095 feet.

The Federal Petroleum Co. completed No. 2 Childs, Section 8-16-16, pumping 125 bbls. at 2,282 feet.

The Ohio Oil Co.'s No. 1 Scott, Section 19-16-15, made a 100-bbl. pumper at 2,082 feet.

The Roxana Petroleum Corp. completed No. 1 C. Flenniken, Section 8-16-15, pumping 80 bbls. at 1,985 feet.

W. E. Rutledge, trustee, completed No. 1 Hodges, Section 1-16-17, pumping 45 bbls. at 2,260 feet.

Simon and others completed No. 1 Burton, Section 25-16-16, flowing 300 bbls. at 2,135 feet.

The Texas Co.'s No. 6 Hedgewood, Section 24-16-16, is swabbing 300 bbls. at 2,135 feet, and No. 8, same section, pumping 75 bbls. at 2,103 feet.

The United Oil Corp.'s No. 1 Burton, Section 25-16-16, is swabbing 300 bbls. at 2,045 feet.

Ouachita County

Completions in the Ouachita County area of the Smackover Field numbered 12, all producers, with an aggregate initial production of 845 bbls.

Anderson and others completed two pumpers on fee land in Section 26-15-17, No. 3 making 35 bbls. at 2,277 feet, and No. 4, 40 bbls. at 2,372 feet.

The Arkansas Invincible Oil Co. completed two pumpers, No. 5 McRae, Section 30-15-16, making 30 bbls. at 2,260 feet, and No. 8 Patton, Section 31-15-16, making 35 bbls. at 2,255 feet.

The Atlantic Oil Producing Co. completed No. 4 Smith, Section 25-15-17, pumping 75 bbls. at 2,322 feet.

Doctor Clark's No. 1 School Yard, in Section 28-15-16, is flowing 45 bbls. at 2,328 feet.

J. E. Crosbie completed No. 3 Berry, Section 33-15-15, pumping 130 bbls. at 1,997 feet.

The Forest Oil Co.'s No. 16 Cramer, Section 22-15-16, made a 110-bbl. pumper at 2,290 feet.

Lee, trustee, completed No. 1 Page, Section 26-15-17, pumping 60 bbls. at 2,360 feet.

Staves and others completed No. 2 Jeffus, Section 26-15-17, pumping 40 bbls. at 2,325 feet.

Sutton and others completed No. 2 Minor, Section 20-15-16, flowing 125 bbls. at 2,320 feet.

The Texas Co.'s No. 5 Berry, Section 35-15-15, made a 120-bbl. pumper at 2,004 feet.

Ouachita County, Stephens Field

The Gulf Refining Co. completed No. 2 Bettis Hall, Section 31-15-19, pumping 25 bbls. at 2,180 feet.

Columbia County, Stephens Field

The Atlantic Oil Poducing Co. completed No. 4 Murphy, Section 14-15-20, pumping 10 bbls. at 2,112 feet.

Cotton Valley District, Webster Parish

Another good well was completed by the Humble Oil & Refining Co. during the week, its No. 3 A. J. Hodges, Section 11-21-10, blowing with gas at the rate of 1,500 bbls. a day, at 2,570 feet; No. 2 Merritt, in Section 14-21-10, is blowing 200 bbls. at 2,670 feet, and No. 1 R. D. Webb, in the same section, came in making 15,000,000 feet of gas and 10 bbls. of oil at 2,580 feet.

The Gulf Refining Co. completed No. 2 A. J. Hodges, Section 11-21-10, pumping 400 bbls. at 2,547 feet.

The Invincible Oil Co. completed No. 2 Merritt, Section 14-21-10, pumping 75 bbls. at 2,556 feet.

Louisiana Wildcats

Caddo Parish: The Keystone Ranger Development Co. abandoned No. 6 Noel, Section 13-21-15, at 550 feet.

Claiborne Parish

The El Dorado Chief Oil Co. got salt water at 3,596 feet in its deep test on the Gandy lease and the well was abandoned. The test was in Section 36-22-7, 8 miles southeast of Haynesville.

The Standard Oil Co. of Louisiana went into salt water at 2,898 feet in No. 1 Loyd, Section 10-20-5, 10 miles southeast of Homer, and the test was abandoned.

The White Oil Corp. junked the hole at 1,805 feet in No. 18 Oakes, Section 30-21-7, in the Homer Field, and the test has been abandoned.

Morehouse Parish

The Amalgamated Oil Co. completed No. 2 Southern, Section 53-20-4e, making 7,000,000 feet of gas at 2,198 feet.

The Humphreys Carbon Co. completed No. 1 Spyker, Section 17-20-5e, making 23,000,000 feet of gas at 2,250 feet.

Ouachita Parish

The Oil Field Exploration Co. completed No. 1 Collins, Section 18-19-5e, making 3,000,000 feet of gas at 2,190 feet.

The Southern Carbon Co. completed No. 34 fee, Section 21-19-5e, making 28,000,000 feet of gas at 2,239 feet.

The Texas Co.'s No. 1 Ladel, Section 4-19-5, came in at 2,175 feet, making 16,000,000 feet of gas.

Arkansas Wildcats, Columbia County

The Arkoil Co. abandoned its test on the Ray-Fullenweider lease, in Section 12-17-22, at 2,675 feet.

The Amerada Petroleum Corp. tested dry at 3,010 feet in No. 1 Baker-Joiner, Section 2-18-22, and the test has been abandoned.

Drilling Operations

Union County, Arkansas: Drilling activity continues on the down grade, with the situation fast approaching a shutdown in this district, as very little new work is being started.

The Arkansas Fuel Oil Co. tested dry at 2,040 and 2,055 feet in No. 1 Dumas, Section 29-16-15, and is drilling deeper at 2,073 feet. The Black Duke Oil Corp. set 6-inch casing at 1,985 feet in No. 1 Wilson, Section 19-16-15.

Bond, trustee, is arranging to test 7 feet of sand at 2,105 feet in No. 3 Powell, Section 19-16-15, and Bonderant and others are drilling at 2,345 feet in No. 1 Tuberville, Section 9-18-12.

Bradley & Cazart are drilling at 2,490 feet in No. 1 Miller, Section 21-17-15.

The Cherokee Petroleum Co. is arranging to test 8 feet of sand at 2,053 feet in No. 5 Burton and has set 10-inch casing at 100 feet in No. 7, Section 25-16-16. J. W. Clark set 6-inch at 2,058 feet in No. 2 Alphin, Section 19-16-15.

Cross and others set 6-inch casing at 2,003 feet in No. 3 Smith, Section 13-16-16; Dyer Brothers are drilling at 2,110 feet in No. 1 Stout Lumber Co., Section 31-15-16; East and others are drilling at 1,115 feet in No. 1 Thompson, Section 5-17-15, and the Federal Petroleum Co. set 6-inch casing at 2,250 feet in No. 3 Ballard, Section 10-16-16.

Freeman and others set 10-inch casing at 125 feet in No. 1 Burton, Section 25-16-16; Gilliland Oil Co. has 600 feet of oil in hole in No. 4 Staples, Section 1-16-17, and arranging to pump at 2,265 feet, and the Gulf Refining Co. is drilling at 100 feet in Burton A-1, Section 25-16-16 and arranging to pump No. 19 and No. 21 L. Werner, Section 6-16-16.

The Humble Oil & Refining Co. set 6-inch casing at 2,215 feet in No. 3 Saxon, Section 32-15-16; Imperial Oil & Gas Co. has 800 feet of oil in hole in No. 1 Morgan, Section 29-17-14, and arranging to pump at 2,195 feet, and the Magnolia Petroleum Co. set 10-inch casing at 170 feet in No. 2 Campbell, Section 13-16-17, and arranging to drill deeper in No. 1 Bradford, Section 8-16-15, completed about a year ago as a 75-bbl. pumper at 2,040 feet.

The Ohio Oil Co. is building derrick for No. 3 Ballard, Section 14-16-15, and set 10-inch casing at 90 feet in No. 2 Scott, Section 19-16-15; Phillips Petroleum Co. set 10-inch casing at 80 feet in Alphin B-2, Section 11-16-15, and the Pure Oil Co. set 12½-inch at 65 feet in No. 2 Burns, Section 20-16-15.

The Reliance Drilling Co. tested salt water at 2,330 feet in No. 1 Meakin, Section 9-16-16, and is arranging to drill deeper. Riggs Drilling Co. has 1,600 feet of oil in hole in No. 2 Rice, Section 6-16-16 and arranging to pump at 2,270 feet, and W. E. Rutledge, trustee, is drilling at 1,275 feet in No. 1 Meek, Section 6-16-16.

Schuler and others set 10-inch casing at 62 feet in No. 3 Henderson, Section 19-16-15; Standard Oil Co. of Louisiana is drilling at 2,200 feet in No. 4 Alphia, Section 2-16-15; Sun Oil Co. is drilling at 1,320 feet in No. 3 Smith, Section 1-16-17, and set 8-inch at 1,995 feet in No. 4 Wilson, Section 19-16-15, and The Texas Co. has 900 feet of oil in hole in No. 7 Hedgewood, Section 24-16-16, and arranging to pump at 2,095 feet.

Ouachita County, Arkansas

The Arkansas Invincible Oil Co. set 10-inch casing at 60 feet in No. 9 Patton, Section 31-15-16; Atlantic Oil Producing Co. set 6-inch at 1,815 feet in Brierton C-1, Section 24-15-17, and 12½-inch at 60 feet in No. 4 Jeffus, Section 25-15-17, and J. E. Crosbie and others set 10-inch at 60 feet in No. 4 Berry, Section 33-15-15.

Bray-Hawthorne have gone back into their test on the Copenhagen lease in Section 13-15-17, and are trying to save the hole by going over the 4-inch with 6-inch at 2,120 feet.

Dyer Brothers have derrick up for No. 2 Stout Lumber Co. and have set 6-inch in No. 1, Section 31-15-16; Forest Oil Co. is arranging to test 23 feet of sand at 2,320 feet in No. 4 Cramer and drilling at 2,090 feet in No. 7, Section 27-15-16; Gilliland Oil Co. set 6-inch in No. 4 McRea; has derrick up for No. 5, Section 25-15-17; set 6-inch in No. 3 W. A. Smith, has derrick up for No. 4, Section 36-15-17 and drilling at 2,045 feet in Wells S-3, Section 25-15-17.

Green and others are rigging up to drill No. 1 La Grone, Saction 30-15-16, in the townsite of Louann.

Herman & Jackson are drilling at 2,320 feet in No. 1 Shirey, Section 36-15-17; Leon and others are arranging to pump No. 3 Patton, Section 32-15-16, at 2,262 feet; Magnolia Petroleum Co. set 10-inch casing at 160 feet in No. 2 Brown, Section 26-15-17 and is cleaning out with cable tools at 2,273 feet, Smith B-8, Section 31-15-16.

The Mercury Oil Co. tested dry at 2,303 feet in No. 2 Hardin, Section 28-15-16, and is arranging to drill deeper; Morefield and others are drilling at 2,250 feet in No. 1 McDaniels, Section 28-14-17, and R. B. Nelson set 10-inch casing at 62 feet in No. 3 Jeffus, Section 26-15-17.

The Owenwood Oil Corp. got salt water at 2,067 feet in No. 4 Snyder, Section 34-15-15, plugged back and is setting 2½-inch tubing at 1,957 feet. Peltier Oil Co. is temporarily shut down at 2,588 feet in its test on the Eagle Mills Lumber Co. lease, Section 25-12-16.

The Simms Oil Co. is bailing to test 10 feet of sand at 2,030 feet in No. 3 Gaskin, Section 30-15-16, and the Skelly Oil Co. deepened the hole in No. 5 Chandler, Section 19-15-16, from 2,306 to 2,317 feet, got a 10-bbl. pumper and is arranging to drill deeper.

The Standard Oil Co. is arranging to pump No. 4 Griffin, Section 33-15-15: Staves and others are running sand pump in No. 2 Jeffus, Section 26-15-17, at 2,325 feet, and Stumph & Todd are closed down for water at 1,500 feet in No. 3 LaGrone, Section 30-15-16.

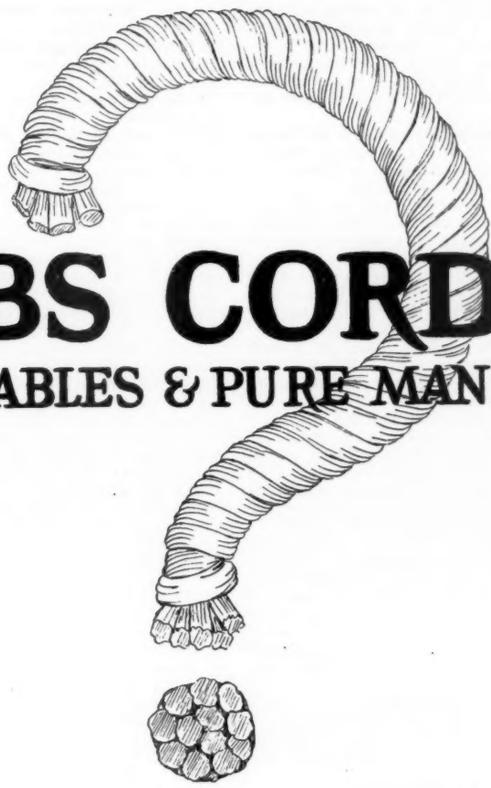
The Sure Oil Co. has taken over the old Stringfellow well, drilled by the Vitek Oil Co. and originally making 15,000 bbls. at 2,000 feet, and is arranging to drill deeper.

Sutton and others set 10-inch at 40 feet in No. 1 Ebenezer, Section 20-15-16: has derrick up for No. 4 McElroy, in Section 28-15-16, and testing 2 feet of broken sand at 2,323 feet in No. 3 Hughes, Section 28-15-16.

Whittiken and others tested salt water in No. 4 Anderson, Section 23-15-17, and waiting orders at 2,475 feet.

Ouachita County, Stephens Field

The Ohio Oil Co. set 6-inch casing at



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2,080 feet in No. 2 Bettis Hall, Section 31-15-19.

Columbia County, Stephens Field

The Atlantic Oil Producing Co. set 6-inch casing at 2,070 feet in No. 6 Murphy, Section 14-15-20; Magnolia Petroleum Co. drilling at 800 feet in No. 2 L. Rinehart, Section 35-15-20, and Virgol Heath, trustee, is drilling at 1,870 feet in No. 1 Williams, Section 1-19-21.

Arkansas Wildcats—Calhoun County

The Arkansas Fuel Oil Co. is drilling in sandy shale at 2,670 feet in No. 2 Childress, Section 1-15-15.

Drew County

Graves and others are drilling in gumbo at 2,340 feet in No. 1 Karnes, Section 10-13-6, and Rhodes and others are running core barrel at 1,910 feet in No. 1 Harris, Section 5-13-8.

Nevada County

The Kenark Oil Co. is drilling at 1,125 feet in No. 1 Honea, Section 12-13-21; Lockhart and others at 900 feet in No. 1 Cornelius, Section 17-10-22, and Smitherman & McDonald at 500 feet in No. 3 McKinney, Section 10-14-21.

Cotton Valley District, Webster Parish

Cotton Valley is rapidly developing into a real oil field and were it not for the general depression of the industry, this district would now be experiencing a boom of large proportions. The first well drilled by the Oil Fields Gas Co. on the Hope Estate lease, originally completed a small pumper, has been drilled a few feet deeper and is now making 500 bbls. a day.

Only three new wells were started during the week, C. W. Robinson, rigging up to drill No. 1 Duhe, Section 22-21-10, and the Ohio Oil Co. is rigging up for No. 4 Bodeau, Section 15-21-10, and building derrick for No. 3 Bank of Cotton Valley, Section 22-21-10.

The Fortuna Oil Co. is running core barrel at 2,525 feet in No. 3 L. Merritt, Section 14-21-10; Hude & Aarens set 12½-inch casing at 208 feet in No. 2 W. W. Cox, Section 22-21-10, and the Invincible Oil Co. set 6-inch in No. 1 Crichton, Section 21-21-10 and is drilling in gumbo at 1,860 feet in No. 1 Lindsay, Section 22-21-10.

Moffat & Murphy are drilling in gumbo at 500 feet in No. 1 Pardee, Section 24-21-10; Ohio Oil Co. bailed casing dry at 2,450 feet in No. 1 R. L. Holliway, Section 23-21-10, and set 8-inch casing at 1,110 feet in No. 1 Bank of Cotton Valley, Section 22-21-10.

The Woodley Petroleum Co. is testing 23 feet of sand at 2,563 feet in No. 3 Merritt, Section 14-21-10, and has made a location for No. 1 W. D. Merritt, same section.

Caddo Parish

A majority of the wells drilling in Caddo Parish and other Louisiana districts are wildcats and on account of the continued drouth, many are shut down for lack of water for drilling operations.

Brewer & Sewall are rigged up ready to start drilling their second test 12 miles southwest of Shreveport, but waiting for water and the Arkansas Caddo Oil Co. is shut down for water at 2,450 feet in No. 1 Nickerson, Section 20-19-15 5 miles south of Mooringsport.

Collins and others tested salt water in 3 feet of sand at 2,486 feet in their test on the Levy Realty & Planting Co. lease, Section 23-19-24, but after bailing to the top of the liner and letting it set over night, the fluid rose 1,600 feet in the hole with 200 feet of oil on the top. After swabbing back to the top of the liner, the fluid rose 75 feet in half an hour, showing 75 per cent water. They are now pulling liner and will drill a few feet deeper and if the oil showing continues, a string of 4½-inch casing will be set to cut off the salt water. The test is 8 miles south of Shreveport, about half way between the Bethany and Elm Grove gas fields, and the oil showing is at 2,542 feet.

The Proven Production Co.'s test 3 miles north of Bethany and T. C. Adams and others' between Logansport and Bethany are both closed down for water.

In the Pine Island district, the Dixie Oil Co. is drilling in lime at 2,810 feet in No. 14 Robertshaw, Section 14-21-15, at 3,125 feet in No. 43 Robertshaw, Section 13-21-15, and arranging to pump No. 62 Robertshaw, Section 14-21-15, at 1,665 feet.

In the Caddo Lake district, the Gulf Refining Co. is drilling in shale at 3,207 feet in its deep test, No. 216 Ferry Lake, Section 14-20-16.

Claiborne Parish

The Dixie Oil Co. is drilling at 2,400 feet in No. 1 Eastep, Section 20-20-7, 6 miles southwest of Homer.

The Forest Oil Co. is drilling plug in 8-inch at 2,035 feet in No. 1 Fields, Section 22-19-5, 5 miles northeast of Arcadia.

The Triangle Drilling Co. is drilling at 2,900 feet in No. 1 Ferguson, Section 5-21-5, 10 miles northeast of Homer.

De Soto Parish

The Greyhound Syndicate is drilling in chalk rock at 1,400 feet in No. 1 Pollock, Section 36-11-14, 1 mile northwest of Logansport.

Ulrey and others are drilling at 2,885 feet in No. 1 Frost Johnson Lumber Co., Section 2-11-15, 7 miles east of Logansport.

A. H. Tarver and others set 10-inch casing at 150 feet in No. 1 Hewitt Hicks, Section 10-11-14, 5 miles northwest of Logansport.

Bienville Parish

Borden and others are rigging up to drill No. 1 Davis, Section 8-16-9, on the northeast shore of Lake Bisteneau, a few miles north of where a number of small gas wells were once completed by the Lakeside Oil Co., the Gulf Refining Co., and others.

Bossier Parish

Skannell and others are drilling at 1,600 feet in No. 1 Railroad Land Co., Section 13-17-12, an old well being drilled deeper in the Elm Grove gas district, and the Standard Oil Co. is drilling in rock at 860 feet in No. 6 McDade, Section 6-16-11.

Grant Parish

The Grant Parish Petroleum Co. is drilling at 2,100 feet in No. 2 Ball, Section 1-7-1w, between Alexandria and Winnfield.

La Salle Parish

The Gulf Refining Co. is closed down for water at 1,022 feet in Urania, Section 22-11-2e, 5 miles east of Urania; Stovall Drilling Co. set 4½-inch casing at 1,410 feet in No. 2 Louisiana Central Lumber Co., Section 27-10-2e, 4 miles southeast of Urania, and Urania Petroleum Co. is running core barrel at 1,410 feet in No. 4 Urania, Section 20-10-2e, 2 miles south of Urania.

Morehouse Parish

The Carson Carbon Co. tested dry at 2,500 feet and plugged back to the gas rock to test at 2,240 feet in No. 2 Erwin, Section 20-20-5.

Ladel and others are drilling in shale at 1,865 feet in No. 1 Feazel, Section 22-20-5, and the Natural Gas Producing Co. set 8-inch at 955 feet in No. 12 Crossett, Section 27-21-4.

Ouachita Parish

The Amalgamated Oil Co. is rigging up to drill No. 5 Perry, Section 20-20-5.

Ladel and others are drilling at 540 feet in No. 26 fee, Section 16-19-5, and set 8-inch casing at 950 feet in No. 28 fee, Section 30-19-5; Palmer Corp. set 6-inch at 2,110 feet in No. 1 Grayson, Section 12-19-4 and at 2,180 feet in No. 2 Lieber, Section 4-19-5, and Southern Carbon Co. is drilling at 2,085 feet in No. 35 fee, Section 5-19-5, and at 1,400 feet in No. 36 fee, Section 21-19-5.

Montgomery and others are down 175 feet in No. 1 fee, Section 6-19-5, and Pelican Gas & Carbon Co. is rigging up to drill No. 1 Shell, Section 18-19-5.

The Standard Carbon Co. set 6-inch at 2,128 feet in No. 1 Gayle, Section 18-19-5.

Union Parish

In the north end of Union Parish, Frankel Brothers are drilling at 1,300 feet in No. 1 T. D. Brazile, Section 30-23-2w, 13 miles west of the Oakland Pool, and Johnson and others are arranging to abandon at 3,010 feet their test on the Pryor Estate in Section 35-22-2w, 10 miles southwest of Oakland.

In the east end of the parish, James and others are down 50 feet in No. 1 Talton, Section 14-20-3e, and The Texas Co. set 6-inch casing at 2,025 feet in Grayling Lumber Co., Section 32-21-4e.

West Carroll Parish

The Arkansas Fuel Oil Co. is drilling in sandy shale at 1,990 feet in No. 1 Fiske, Section 8-21-10e.

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., Aug. 9.—Official figures of the Ontario crude oil production for the first six months of 1924 have been compiled by W. D. McDermid, supervisor of crude oil bounties. The figures show an aggregate production of all Ontario fields for the six months period of 80,010 bbls. and 22 gallons, compared with a production for the six months ending June 30, 1923, of 78,293 bbls. The Government bounty on this production amounted to $42,005.06. Over $10.720 was paid in bounty in the one month of June, representing the largest reported production for any one month in many years. This was due to the rush of bounty claims at the last moment before the reduced bounty took effect on July 1.

Ontario Production

Production and bounty payments for the various Ontario pools for the six-months period ending June 30, 1924, are as follows:

	Bbls.	Gals.	Bounty
Petrolia-Enniskillen	32,644	26	$16,613.24
Oil Springs	22,272	20	11,692.47
Moore Township	3,284	24	1,724.38
Sarnia Township	1,605	32	843.08
Plympton Township	365	22	191.95
Bothwell	13,426	10	7,048.78
Dover West	2,251	17	1,182.03
Moss	4,650	4	2,441.29
Onondaga Township	158	26	83.34
Raleigh Township	351	16	184.50
Total Ontario production	80,010	22	$42,005.06

No production was claimed for the Thamesville, Dutton, Tilbury and Dawn Township Pools which have usually reported a small production.

In the Ontario fields, drilling is in progress at several localities, but without conclusive results. In Essex County, the Southern Ontario Gas Co.'s test near Colchester, is drilling. Farther east, the Vacuum Gas & Oil Co. is reported arranging for another deep test near Arner, where the Trenton limestone is encountered at a high point in the structure. In Kent County, the Glenwood Natural Gas Co.'s well on the Hugh Shanks, west of Port Alma, is being put on the pump. Union Natural Gas Co. No. 251 on the John Shanks farm, near Port Alma, is drilling around 2,000 feet. In Dover East Township, Eugene Coste & Co.'s No. 7, Matt Doyle farm, is drilling below 700 feet. North of Thamesville, E. P. Rowe is reported drilling around 2,150 feet on the Featherstone farm, without a show. This test will be carried down to the Trenton limestone.

In Bruce County, the Mulberry Creek Oil Co., drilling on the Fowlie farm, about 6 miles north of Lion's Head, is reported down 1,600 feet with a test of the Trenton limestone. The company expects to get production in another 500 feet of drilling, when a second test will be started. The company is reported to be considering tentative plans for a 3,000-bbl. refinery at Southampton, in Bruce County, on a site close to the C. N. R. and the harbor; and arrangements have been made with the Dominion Government for a right of way for the company's pipe line along the shore from the drilling site to Southampton, a distance of 35 miles. Crude oil will also be brought from Cleveland to the proposed plant in tankers.

Drilling at Fort Norman

In western Canada, the Imperial Oil, Ltd. drilling crews in charge of Angus Sutherland, sent to the Far North last spring, are drilling on a new test located close to the discovery well below Fort Norman. Casing has been pulled from one of the dusters finished last year, for use in the new test. The drilling outfit and other machinery leased a couple of years ago to the White Beaver Oil Co. for its unsuccessful test at Hay River have been brought down stream this season for use in the Fort Norman drilling.

In northern Alberta, the tar sand extraction plant of McMurray Asphaltum & Oils, Ltd., at Waterways, in the Athabaska district, was badly damaged by fire recently, with an estimated loss of $8,000. The machine shop was clompletely demolished, with a quantity of oil and mined tar sand. Mining and shipping of the tar sands are, however, still being carried on, though under considerable difficulties.

In east central Alberta, British Petroleums' No. 3, Section 29-45-6w-4, is reported working with the core drill at 1,970 feet. No commercial production of either oil or gas has yet been reported. British Petroleum No. 4 is drilling at 1,200 feet. Maple Leaf Oil Co.'s No. 1, Section 24-45-8w-4, is down 1,775 feet and has encountered heavy gas pressure, though it is apparently drilling in a hard cap rock overlying the main gas sand. Mud is being pumped into the hole to check the gas pressure and permit deeper drilling. After reaching the 1,700-foot horizon with the rotary outfit, a core drill was put down for 75 feet; but the hole is now being reamed out. The formations here are very similar to the Imperial Oil, Ltd. Fabyan No. 1 gasser, on Section 18-45-7w-4, though the structure seems to be a little higher. Maple Leaf No. 2 has been spotted on Section 13-45-8w-4. Western Consolidated Oil Co., Section 20-45-6w-4, 5 miles northeast of Wainwright, which has been waiting for casing, has spudded in with a standard outfit. Wainwright Oil Producers Syndicate, Section 36-44-7w-4, on the edge of Wainwright Townsite, is running double tour and making fair headway.

West of Wetaskiwin, the Globe Drilling Co. (Mutual) test on Section 14-47-27w-4, near Pigeon Lake, is drilling below 1,200 feet, but is making hole slowly. The drill is working in hard rock with a single shift; though small gas pockets and slight traces of oil have been reported.

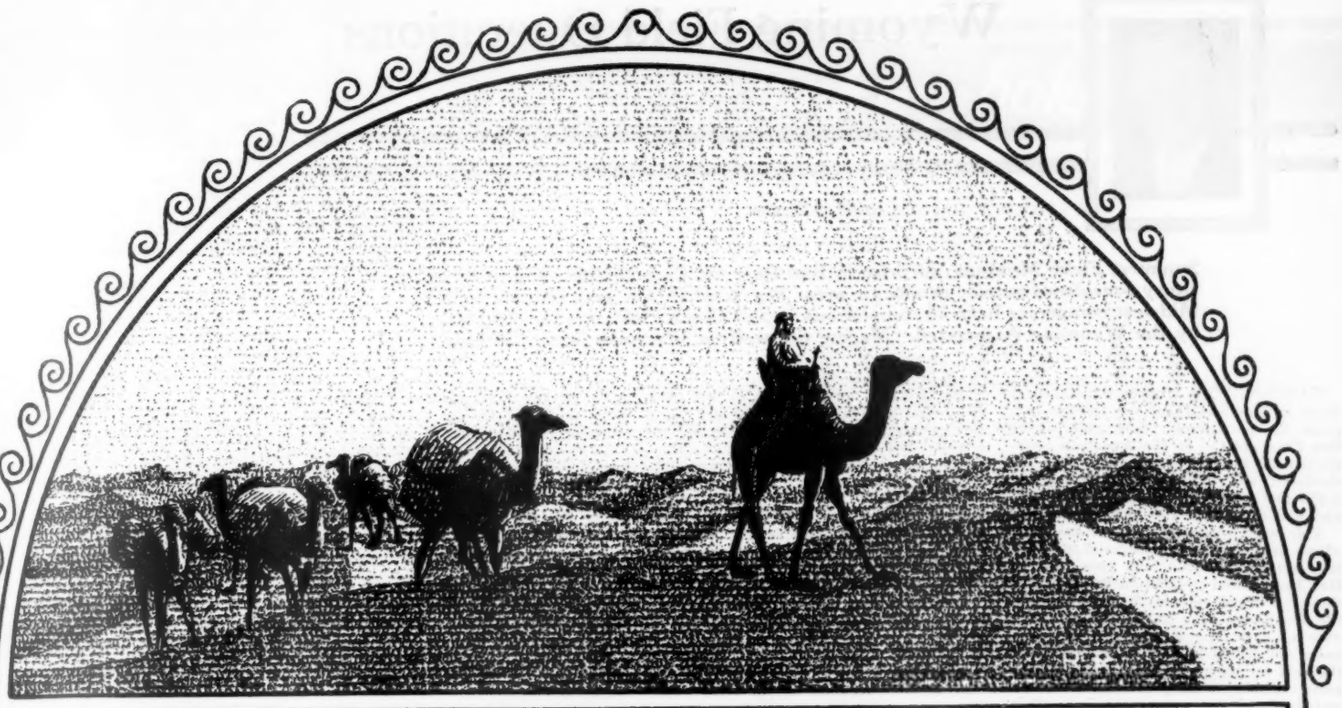
Montana Field

In the Montana fields, the Red Deer-Sunburst Oil Co.'s test on the Anderson lease, SE NW SW 29-35-1w, which encountered production in the Ellis sand at 1,474 feet, is reported to have been drilled 60 feet deeper and to be making 125 to 150 bbls. Red Deer, Alta. men are largely interested in the test. The Beaupre Oil Co. is reported rigged up to spud No. 1 well, Section 31-37-1w, close to the border.

In Southern Alberta, Canadian Oil & Refining Co. (Rogers-Imperial) No. 1, Section 29-1-11w-4, east of Coutts, is reported drilling in a hard blue shale at 2,568 feet, some 40 feet below the gas sand. Imperial Oil, Ltd. has material on the ground for its new Sweetgrass test at Dead Horse Coulee, on Section 33-2-11w-4, close to the Rogers-Imperial. The rotary outfit used for the Fabyan tests in the Irma-Wainwright Field will be used in this drilling. In the Foremost Field, the Canadian Western Natural Gas Co. has done some trenching and started to lay pipe for its new 10-inch line connecting the field with the Bow Island main line.

HEADQUARTERS TO HOUSTON

HOUSTON, Tex., Aug. 9.—Charles Martin & Co., official gaugers, testers and tanker inspectors for most of the shippers of crude and refinery products in tankers, have located their headquarters for the southern ports in Houston. The company maintains inspectors at Port Arthur, Beaumont, Texas City, Galveston and Houston. T. C. Sullivan is the district inspector, with three assistants.



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Wyoming Field Operations

By F. B. Taylor

Sunburst Field, Montana, surprise in Red Deer Oil Co.'s 100-bbl. well in territory considered outside producing area. Big West Oil Co. gets 200-bbl. well. Midwest companies have 26 completions in Salt Creek Field, one for 680 bbls. by the Wyoming Associated. Marine Co. well on Wyokans lease, 350 bbls.

CASPER, Wyo., August 9.—Sunburst Field in Montana furnished another surprise the past week. The well of the Red Deer Oil Co. on the Anderson lease, Section 29-35-1 found the oil in both the Sunburst and Ellis sands, the first at 1,455 feet and the second at 1,522 feet and will do around 100 bbls. daily.

This well is far over on the east side of the field, generally considered territory well outside the producing area, yet the Red Deer found production worth while. Sunburst Field refuses to stay put and the boundaries have to be enlarged every once in a while. At times, a few dry holes are drilled in that appear to mark the field for the present, but along comes some company willing to take a chance and spoils all the prognostigations. This happened down on Section 4-34-2 with such force after the sharps had called that part of the field dry hole territory, that of late, no one is venturing an opinion as to where the field will stop. On that section after a dry hole was drilled, the Shoshone Oil Co. brought in a 2,000-bbl. gusher and others have been following suit with regularity.

Sunburst and Cat Creek

Sunburst today offers probably the best chance for the smaller operator that can be found in the Rocky Mountain region. When this field was first opened, the oil men analyzed it by comparison with Cat Creek, the only other producing field in Montana then. Cat Creek is a true pool with a regular line of demarcation between the producing area and the dry hole territory. A well drilled inside this line obtains oil, outside is dry. The same plan will not work out in Sunburst; the sands of the Sunburst Field were laid down after the sea bottom was eroded into gulches, small valleys, hills and a generally rolling topography.

If a well in Sunburst happens to be located so as to drill where a hill was on the old seabottom, a dry hole is the result with a thin sand; if the well is located over a former valley or gulch, the sand will be thick and a good producer comes in. While there are some general surface indications, the limits of the Sunburst Field cannot be worked out satisfactorily by surface geology and the field is going to have to rely on the drill for much of its future history. When it was first brought in in 1923, it was generally thought the area would be found somewhat smaller than Cat Creek. This opinion was based on the size of the wells for Sunburst did not show up production per well equal to Cat Creek. At present Sunburst is producing more oil than Cat Creek and Salt Creek and Lost Soldier are the only fields that head it in the amount of oil produced. Big Muddy, Grass Creek, Elk Basin and Cat Creek are all under the Sunburst figures.

Extent of Field

At present the Sunburst Field has about 38 sections which have producing wells or are between production and the central part of the field. This means 38 square miles of production, if it is all good. Salt Creek is generally considered as having about 32 square miles of productive area, exclusive of Teapot. Salt Creek is practically known as to its area, but owing to the wells drilled in Sunburst the past few months there is no way of telling how far the field is going to go. It is not a gusher field like Salt Creek, Cat Creek and Lost Soldier, the wells average under 50 bbls., but the Ellis sand lies only about 1,550 feet from the surface and the Sunburst sand lies about 1,200 feet from the top; at this depth, the matter of small average per well does not matter to the average producer. It is a field where the small oil company willing to take a risk can obtain leases well outside the development and still stand a show of obtaining production for their venture.

Big Piney and La Barge

The Big Piney and La Barge fields in the southwest corner of Wyoming are to be classified again before the Interior Department. The operators in these fields are in a quandry as to whether to call the fields oil fields or call them wildcats.

The trouble has arisen over the Geological Survey classifying the fields as oil fields and the Interior Department granting permits upon the lands as upon existing fields. This means that the Government will demand a larger royalty from the permit holders in these areas than in wildcat territory. The operators now claim that there are no producing wells in the areas, that there never was a commercial well found and that the reports given out by operators as to the production of wells drilled was misleading and erroneous. A well that was stated by operators who drilled it to make 50 bbls. is now stated to have made only 1 bbl. and another 25-bbl. well is now down to ½ bbl. The claim is made that the areas of the two fields are mere wildcat operations and that if the Government enforces the clauses relating to producing areas, the operators cannot see their way clear to drill deep holes to test the sands where the main body of oil is expected to be found.

Wellington Still on Fire

The Wellington well of the Union of California is still on fire, boilers are now being moved to the loctioan and an effort will be made to blow out the flame with steam and explosives at the same time. The same firm's well south of the Wellington structure on the Fort Collins Dome is down 4,400 feet and the sand is expected at any time. This latter dome is a new and separate structure from the Wellington and the operators hope to see an oil producer come in there rather than a gas well.

New Mexico Line

The Midwest Refining Co. is completing the welded pipe line from the Hogback wells in New Mexico to the railroad and will be ready to make the first shipment of oil this week. The line is about 27 miles long and no test has been made of the wells on Hogback to date except a few short flows that filled all available tankage at the field.

Carter Into Colorado

The Carter Oil Co. will enter the Colorado territory. This well known oil firm, the operating company for the Standard of New Jersey, has been busy in Wyoming and especially in the Salt Creek Field, looking after its production there. At present the Carter owns or operates a large part of the east side of the Salt Creek Field. Due to the closing of a contract with The Texas Co. recently, the Carter will drill a well in Routt County, northern Colorado, on the Sage Creek Dome. The Carter Oil Co. has one of the best field forces in the Rocky Mountain region.

The Neiber Dome well of the Midwest Refining Co. is drilling at 4,025 feet in Hot Springs County, Wyoming. This well was started two years ago and has been drilling in the same hole since. The sands were expected about 3,500 feet but so far nothing of importance has been found and the sands are still to be encountered.

The Baxter Basin Field in Sweetwater County, Wyoming, is very quiet. The Midwest deep test has proven dry in the lower sands and is plugged back to take care of the gas found in the Frontier. The Producers & Refiners is laying the gas line to Rock Springs to supply that city with gas and expected to complete same this month.

A deep well is being drilled on Fiddler Creek, by the Fiddler Creek Oil Co., south of the Osage Field in Weston County, Wyoming. This test is to try and extend the Osage development southward although several dry holes about the south end of the present development seem to preclude any chance of an extension in that direction. The hole is about 2,000 feet.

Salt Creek Completions

The Midwest Refining Co. completed 26 new wells in the Salt Creek Field the past week. This is the record number of completions in the field to date and the wells are as follows under the list of the Midwest subsidiaries operating the different leases at Salt Creek:

Midwest Oil Co.: Section 1-39-79, No. 12-A, 1,916 feet, 31 bbls.; Section 25-40-79, No. 16-A, 1,530 feet, 25 bbls.; Section 22-40-79, No. 30-A, 2,291 feet, 36 bbls.; Section 23-40-79, No. 11-A, 1,488 feet, 265 bbls.; Section 27-40-79, No. 20-A, 2,030 feet, production nominal; Section 22-40-79, No. 10-A, 1,951 feet, 64 bbls.; Section 15-40-79, No. 35-A, 1,960 feet, 80 bbls.

Wyoming Oil Fields: Section 24-40-79, No. 31-A, 925 feet, shale, 75 bbls.

Midwest and Wyoming Associated, working jointly: Section 36-40-79, No. 23-A, 1,766 feet, 25 bbls.

Wyoming Associated Oil Co.: Section 30-40-78, No. 21-A, 2,296 feet, production nominal; Section 23-40-79, No. 22-A, 1,560 feet, 200 bbls.; Section 2-39-79, No. 4-A, 1,657 feet, production nominal; Section 24-40-79, No. 15-A, 1,868 feet, 200 bbls.; Section 15-40-79, No. 1-AX, 2,276 feet, 20 bbls.; Section 2-39-79, No. 24-A, 1,824 feet, production nominal; Section 24-40-79, 34-A, 1,640 feet, 680 bbls.; Section 15-40-79, No. 13-A, 1,418 feet, 35 bbls.

Salt Creek Consolidated: Section 11-39-79, No. 3-A, 2,080 feet, production nominal; Section 3-39-79, No. 3-A, 2,147 feet, nominal production; Section 3-39-79, No. 15-A, 1,872 feet, nominal production; Section 3-39-79, No. 25-A, 2,020 feet, nominal production; Section 7-39-78, No. 15-A, 1,165 feet, 121 bbls.; Section 2-39-79, No. 19-AS, 1,727 feet, nominal production; Section 3-39-79, No. 4-AX, 1,984 feet, nominal production.

Utah Oil & Refining Co.: Section 30-40-78, No. 25-A, 2,180 feet, 50 bbls.

Mountain & Gulf Oil Co.: Section 6-39-79, No. 3-A, 2,242 feet, production nominal. (Nominal production is understood to mean less than 25 bbls.)

The Marine Oil Co. on the Wyokans lease, Section 18-40-79, has a flowing well that is estimated at 350 bbls. for its No. 3 and the same firm's No. 4, on the same section was shot with 160 quarts and will make 100 bbls. The Wyokans No. 11, on Section 28-40-79 is cleaning out after a shot and will make a producer of 50 bbls. On Section 5-30-78, the Marine is placing tubing in No. DS-3S at a depth of 2,795 feet, and on Section 20-30-78 the Taylor wells Nos. 6 and 7 are swabbing and cleaning out and a rig is building for No. 8 on the same lease. On Section 17-39-78 the Marine No. 7 is busy with a fishing job for some 10-inch casing and No. 9, same section, is rigged up and ready to spud in.

Montana

In the Montana Fields the Cat Creek Field is very quiet with only one well starting to spud in. The west end is now routine. In the Lake Basin Field northwest of Billings, the Midwest Refining Co. has a rotary drilling at 1,670 feet with the objective sand at 3,840 feet at this location. Another well being drilled by the same company with standard tools is about 1,000 feet. A third well will be spudding by next week.

In the Sunburst Field the Big West Oil Co., on Section 2-34-2, has a producer good for 200 bbls. in the Ellis sand at 1,570 feet and the Potlatch Oil Co. on the Adams tract, the deep well that the Potlatch is drilling to make a test of the lower formation is a gasser in the Madison lime at 3,045 feet and the flow is estimated at 1,000,000 feet. The gas is heavy with sulphur. The Regals Oil Co. on the Sweeney tract, Section 5-34-2, found the Ellis sand at 1,464 feet and will make 150 bbls.

Runs From the Fields

Salt Creek	85,800
Teapot	7,15
Big Muddy	3,750
Grass Creek	3,070
Elk Basin	1,210
Greybull	50
Byron	65
Rock River	3,000
Lance Creek	2,100
Poison Spider	850
Osage	425
Hamilton Dome	900
Mule Creek	1,435
Lander	415
Pilot Butte	75
Ferris	125
Rex Lake	350
Craig	2,200
Cat Creek	4,045
Kevin-Sunburst	4,120
Miscellaneous	640
Total	122,940

GULF PORT SHIPMENTS

HOUSTON, Tex., Aug. 9.—Incomplete reports of water shipments of refinery products and crude from Gulf ports during July show the Pure Oil Pipe Line Co. loaded out 251,083.22 bbls. of refined and 529,500.87 bbls. of crude from its refinery and terminals at Smith's Bluff on the Neches River, above Port Arthur. The United Central Oil Corp., formerly White Oil Corp., loaded 737,369 bbls. of crude at its Pasadena refinery dock on the Houston ship channel. Of the total, 507,786 bbls. were handled for the account of the Atlantic Refining Co.; 79,243 bbls. for the account of the Sinclair Consolidated Oil Corp. and 150,340 bbls. for the account of the Beacon Oil Co., Boston. Practically all of this was Luling crude.

GOOSE CREEK POOL FILM

HOUSTON, Tex., Aug. 9.—The safety department of the Mid-Continent Oil & Gas Association, has completed a moving picture of the Goose Creek Pool in the Gulf Coast region, entitled "Live and Let Live." The picture shows a burning oil well and the protective measures for the safety of workmen. The scenes were taken under the supervision of M. F. Leopold, of the United States Bureau of Mines and will be exhibited in conjunction with scenes in other oil producing regions of the country.

UNITED GAS RAISES RATES

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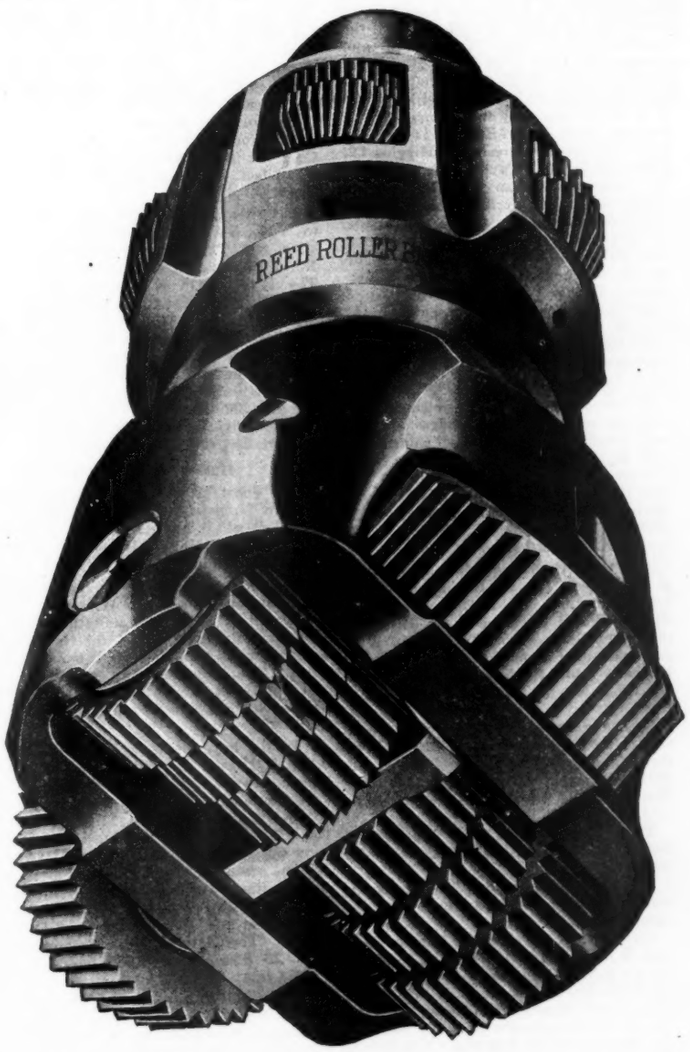

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Gulf Coast Oil Operations

By P. L. McGreal

Completions in Orange Pool result in increase in production of Gulf Coast with net increase of entire district estimated at 2,363 bbls. daily. Deepest natural flowing well holding up output. Test on High Island making 75 bbls. from shallow depth of 142 feet. Three completions at Luling.

HOUSTON, Tex., Aug. 11.—The estimated daily average gross production in the Gulf Coast Pools increased 2,035 bbls. over the estimate for last week, due largely to last week's completions in the Orange Pool. The Rycade Petroleum Co.'s No. 2-E on State land in Cow Bayou there, which came in last week making 3,500 bbls. choked down at 4,997 feet, is still holding an average of 2,500 bbls. It is the deepest natural flowing well in the Gulf region. The Rycade Co. is still hauling in mud to fill the cavity in the test east of Damon Mound, Brazoria County, in which the drill went into gyp at 630 feet and drilled into it for 35 feet, losing returns in the cavity. Three completions in the Luling Field are without any special significance.

The estimated daily average gross production in each district is as follows:

District—	Gross Bbls.
Batson	1,650
Blue Ridge	755
Barber Hill	170
Dayton	95
Damon Mound	1,470
Edgerly	575
Goose Creek	11,800
Humble	8,050
Hull	22,750
Jennings	615
Markham	220
Orange	12,050
Pierce Junction	295
Spindletop	975
Saratoga	1,470
Sour Lake	4,520
Vinton	6,100
West Columbia	11,925
*Miscellaneous	950
Total	86,435

*High Island credited with 100 bbls.; other semi-pools average same as last week.

Southwest Fields—	
Luling	44,661
Laredo	4,200
Somerset	2,410
Calliham	660
Rockdale-Minerva (Milam County)	560
Total	52,491
Grand total	138,926
Grand total last week	136,563
Net increase	2,363

Wells completed during the week in the Coastal Pools number 19, of which seven were "worked over holes," or old wells revived by the process of redrilling and setting new strainers. The new production totals 2,450 bbls. as compared with 11,665 bbls. last week. Four of the new completions are listed as failures and one salt water hole, which may later become a producer. The West Columbia lone completion is a gas well. At the close of the week an even dozen wells are being bailed. Another shallow sand well was developed at High Island Dome in Galveston County.

The new production in the Luling Field totals 2,500 bbls. The Rycade Petroleum Co. has a small well on the Ina Oil Co. holdings in Medina County, where two similar wells are located.

Operations in Hull Pool

The Republic Production-Houston Oil Co.'s No. 70 Dolbear on the east side of the Hull Dome, a workover, flowed 1,500 bbls. for three days at 2,525 feet and then quit. It will be rigged to pump. Their No. 20 Dolbear, another workover, will make a pumper at 2,775 feet; No. 87 Dolbear, a new hole, is a pumper at 2,750 feet. The Gulf Production Co.'s No. 33 Phoenix on the southeast side, is flowing 100 bbls. at 3,350 feet.

The Republic-Houston Oil Co.'s No. 13 Dolbear is working over, No. 88 is drilling around 3,665 feet with a derrick up for No. 89. The Gulf Co.'s No. 16 and 29 Phoenix are being redrilled, with a derrick standing for No. 43; No. 6 Thomas is drilling at 3,445 feet; No. 10 Baldwin on the south side, is at 3,135 feet. The Houston Production Co.'s No. 12 Barngrover is below 565 feet and the Humble Oil & Refining Co.'s No. 10 Hooks-Spells is at 1,765 feet. On the southwest side, The Texas Co. and Vacuum Oil Co.'s joint No. 3 Hannah is drilling around 2,725 feet. On the west side, the Gulf Co.'s No. 15 Hannah fee is at 3,140 feet and the Humble Oil & Refining Co.'s No. 1 Hannah is at 3,480 feet. On the northwest, the Higgins Oil & Fuel Co.'s No. 2 Taylor is around 2,615 feet and the Mecom Oil Co.'s No. 6 Mecom is drilling at 3,096 feet and No. 7 Mecom at 655 feet. On the north side, the Yount-Lee Oil Co.'s No. 10 Merchant is at 655 feet. The Humble Oil & Refining Co. has a derrick up for No. 3 Merchant. The Gulf Production Co.'s No. 7 Scarborough is at 2,145 feet sidetracking and No. 13 on that lease is drilling at 1,444 feet. No. 12 Morris-Phillips to the northeast, is around 3,455 feet.

Hardin County Pools

At Batson, the Kirby Petroleum Co. is resetting screen in No. 2 Hodges, its deep test, which flowed late last month and then quit. The Duetser Oil Co.'s No. 9 Trustee is a 10-bbl. pumper at 910 feet and the East Batson Oil Co.'s No. 7 Allen is making the same amount on the jack at 775 feet. The Paraffin Oil Co.'s No. 38 Knight is bailing at 450 feet.

The Gulf Production Co.'s No. 13 is at 1,100 feet. S. R. Buchanan is still fishing in No. 77 Milhome. W. B. Flynn's No. 1 Donohoe is at 375 feet; the Sun Oil Co.'s No. 73 Paraffin is at 816 feet and Campbell & Borum's No. 2 Hooks is below 1,345 feet. The Ada Belle Oil Co.'s No. 78 Honeymoon is at 910 feet.

In the Saratoga Pool, the Rio Bravo Oil Co.'s No. 2-P was abandoned at 1,905 feet. The Gulf Production Co.'s No. 22-BBBC is a salt water hole at 1,360 feet. The Sun Oil Co.'s No. 73 fee is bailing at 1,625 feet.

The Rio Bravo Oil Co.'s No. 39-B is drilling at 985 feet. A derrick is up for No. 10-B.

In the Sour Lake Pool, The Texas Co. worked over No. 288 fee into an average pumper at 2,310 feet.

The Sun Oil Co.'s No. 58 Bass & Eastham is drilling at 1,110 feet. The Minor Oil Co.'s No. 73 feet is at 1,010 feet. The Lake View Oil Co.'s No. 39 Hardin is at 2,390 feet; the Gulf Production Co.'s No. 26 Tarver-Hardin at 2,110 feet and the Humble Oil & Refining Co.'s No. 38 West-Hardin is drilling at 2,345 feet. Hardin tract is on the north side of the pool, as is The Texas Co.'s fee holdings. J. H. Antillery's No. 2 Rio Bravo is rigging to start drilling.

Orange Pool

The Brownie Babbittee Oil Co.'s No. 9 McLean is pumping 50 bbls. at 3,600 feet in the Orange Pool. The Atlantic Oil Producing Co. worked over No. 3 Hager into a pumper at 3,325 feet. The following tests are bailing: Tillery Oil Co.'s No. 2 State land, Cow Bayou, at 2,875 feet; Gulf Production Co.'s No. 2 Hager fee and 11 Hager-Moore at 3,900 and 4,100 feet, respectively, and the Mutual Oil Co.'s Nos. 2 and 3 Chesson, workovers, at 3,350 and 4,280 feet.

The success of the Rycade Petroleum Co. in finding a productive deep sand in the southeast part of the pool in Cow Bayou, on State land, will necessitate some offset drilling by the Gulf, Sun Oil Co. and Brownie Babbittee Oil Co. The latter is now drilling No. 3 Brown around 4,600 feet and the Sun Oil Co. resumed work on No. 5 Brown, drilling around 4,600 feet. The Gulf Co. is rigging No. 7 Peveto. The Rycade Co. is building a derrick for No. 8-E State land. The Gulf Co.'s No. 16 Hager fee is drilling around 3,440 feet. It is on the east side of the bayou.

In other parts of the pool, the Gulf Co.'s No. 5-A Winifree is drilling around 3,800 feet. The Edgerly Petroleum Co.'s No. 7 Carbello is drilling at 3,235 feet. The Humble Oil & Refining Co.'s No. 19-A Chesson is at 3,975 feet and No. 5 Winifree is below 2,819 feet. The Mutual Oil Co.'s No. 13 Chesson is at 4,385 feet. The Orange Petroleum Co.'s No. 3 Chesson is sidetracking. On the northeast side, the Sun Oil Co.'s No. 1 Kato is drilling at 4,366 feet and the American National Oil Co.'s No. 1 Winifree, a semi-wildcat, is around 4,650 feet.

Harris County Pools

The Southern Petroleum Co. is rigging No. 18 Landslide to work it over. The Bradley Oil Co. has started No. 11 Moore, J. M. Hester No. 69 Herman and Marsilas Brothers No. 1 Sun.

In the Goose Creek Pool, the Southern Exploration Co.'s No. 6 Wright is a 15-bbl. well at 2,370 feet and the Humble Oil & Refining Co.'s No. 14 Galliard, a workover, is pumping 50 bbls. at 2,175 feet. The same company is bailing No. 51 Smith at 4,300 feet. The Sun Oil Co.'s No. 8 Bartlett-Smith is bailing at 2,880 feet.

In the bay, the Gulf Production Co.'s No. 3 Hirsch is drilling around 3,980 feet, with No. 2 San Jacinto rigging; No. 26 Beaumont is at 3,710 feet and No. 29 is below 3,135 feet; No. 11 State land is at 2,675 feet. The Humble Oil & Refining Co. is rigging No. 5 Jones in the bay. These are all in shallow waters along the shore line. On the mainland, the Gulf Co. is drilling No. 21-A Wainwright at 1,775 feet and sidetracking No. 3 H. Galliard. The Humble Oil & Refining Co.'s No. 26 Sweet is at 4,485 feet. No. 11 Tabb is at 1,885 feet.

The Gulf Coast-United Central Oil Co.'s No. 28 Galliard is at 2,985 feet. Allen & Marshall's No. 1 Gillette is at 2,125 feet. The La Rue Oil Co.'s No. 1 Dannebaum is drilling around 1,340 feet, and the Inca Oil Co.'s No. 4 Duke at 3,545 feet. The Hisgen Petroleum Co.'s No. 2 Busch is at 2,770 feet. The Southern Exploration Co.'s No. 7 Wright is drilling at 1,534 feet.

The Goose Creek Petroleum Co.'s No. 5 Freeman, in the bay, credited last week with 325 bbls. at 2,775 feet, increased to an average of 450 bbls. per day.

At Pierce Junction, the Gulf Production Co.'s No. 16 Taylor is deepening at 3,365 feet, after blowing out. The Atlantic Oil Producing Co.'s No. 1 Ross is below 3,575 feet.

Brazoria County Pools

The Texas Co.'s No. 80 Hogg in the West Columbia Pool, is a gasser at 2,400 feet and will be drilled deeper. The Humble Oil & Refining Co.'s No. 9 Tyndale-Wyoming is drilling around 2,900 feet and No. 2 Badge is at 4,235 feet. The Gulf Production Co.'s No. 6 Tom Hogg is at 2,355 feet. The Sun Oil Co.'s No. 3 Robertson is deepening at 3,265 feet.

The Sinclair-Gulf's No. 1 Cave at Damon Mound is drilling around 2,770 feet and the Sinclair-Republic's No. 1 Perry, on the south side of Stratton Ridge is at 1,760 feet.

Other Pools

The Gulf Production Co.'s No. 207 Gladys at Spindletop is pumping 50 bbls. at 840 feet and John Wynne's No. 1 Sunshine, 15 bbls. at 900 feet.

The Gulf Co. made a location for No. 208 Gladys and the Rycade Petroleum Co.'s No. 1 Gladys is drilling around 3,465 feet.

The joint test by The Texas Co. and Kirby Petroleum Co. 1 mile east of the dome at Barber Hill, was abandoned at 1,135 feet. It was drilled with a gasoline engine as a formation test. A location has been made for No. 2. The Kirby Petroleum Co. and Mills Bennett's joint No. 1 McKinney, on the southeast side of the dome, is drilling below 3,125 feet.

Fort Bend County

In the Blue Ridge Pool, the Gulf Production Co.'s No. 9-C Blakely is bailing at 2,619 feet. The same company is drilling No. 5 West-Schenck below 3,875 feet and No. 1 Invincible at 2,555 feet. The Texas Co.'s No. 12 Robinson is at 585 feet.

In the Big Creek Pool the Gulf-Snowden & McSweeney's No. 7 Wheat is bailing at 3,775 feet. The same interests are drilling No. 14 Davis at 2,777 feet and 15 Davis at 1,980 feet.

In the Markham Pool in Matagorda County, the Rycade Petroleum Co. has fishing jobs in both Nos. 2 Myers and 1 Sisk, with the bottom of the holes at 3,155 and 2,550 feet respectively. The Gulf Production Co.'s No. 1 Caney Cattle Co.'s land in the southern part of the county is shut down at 2,025 feet. The Marland Oil & Refining Co.'s No. 1 Hawkins is rigging.

On the south side of the Boling Dome, in Wharton County, the Gulf-Atlantic Co.'s No. 2 Felder is drilling at 1,315 feet.

In the semi-pool at High Island, in Galveston County, the Great Western Oil Co.'s No. 7 Carter is credited with 75 bbls. by heads at the extremely shallow cap rock formation at 142 feet. Gulf Production Co.'s No. 1 Smith there is drilling at 1,908 feet.

On the north side of the Hockley Dome, in Harris County, the Texas Exploration Co.'s No. 19 Warren, drilling with a gasoline engine, was abandoned at 375 feet and the rig skidded over for No. 20 on the same side. No. 17 Warren is setting casing at 2,945 feet; Davis & Geiseke's No. 1, near Little York, is drilling around 700 feet. The formation tests of the Dome Petroleum & Development Co. on Buffalo Bayou, west of Houston, are both shut down at 700 and 500 feet respectively.

The Hofer Oil Co.'s test in Liberty County, southwest of the Batson Pool, is drilling below 900 feet. The Vanderbilt Petroleum Co.'s No. 2, Jackson County, is below 2,200 feet; Paggi Oil Co. has locations for two tests in the marshes south of China, Jefferson County.

Down in Duval County, the Humble Oil & Refining Co.'s No. 3 Walsh is reported showing oil and gas in a sand at 3,385 feet. Six and five-eighths-inch casing is being set at 3,335 feet. The Simms Oil Co.'s No. 1 Wade is drilling at 1,055 feet, near Sandia, Jim Wells County. It was drilled to 1,500 feet by another company, bailing hot salt water at that depth. The Simms Co. has a derrick up for No. 2 located 800 feet northeast from the drilling test.

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California Field Operations

By L. P. Stockman

Torrance has record week in number of completions, with aggregate output of 2,595 bbls. Chanslor-Canfield-Midway Co.'s No. 62 Torrance makes 830 bbls. Shell Co.'s No. 7 Reyes, Dominguez, does 1,890 bbls. Donley Oil Syndicate's No. 1 Santa Fe Springs flows 2,552 bbls. when put back to the Bell zone.

LOS ANGELES, Cal., Aug. 11.—The past week proved to be a big one in the Torrance Field as there were 12 wells put on production with an aggregate initial daily output of 2,595 bbls. The large number of completions was not the only outstanding feature of the week, there being some 15 or 16 rigs erected and the finishing touches put on 8 or 10 drillers preparatory to bringing them in.

The Shell Oil Co., with 6 new wells to its credit, easily carried off completion honors, although it was necessary to put all of them on the beam. The company's new wells were all located on the Kettler and Bluemle leases, 3 on the former and 3 on the latter. On the Kettler lease, No. 12 proved to be the smallest new well, as its maximum output was 75 bbls. of 17.8 gravity oil which cut 4 per cent. It was originally drilled to 3,880 feet but was later plugged back to 3,852 feet and finished with an 8¼-inch liner, including 315 feet of 50 mesh screen casing. The output from Nos. 13 and 14 was very nearly identical, the former being listed as a 107-bbl. well and the latter as a 105-bbl. producer. No. 13, Kettler, drilled to 3,851 feet nd finished with an 8¼-inch liner, including 303 feet of 50 mesh screen, is producing 17.4 gravity oil which shows a cut of 2 per cent, while No. 14 Kettler, completed at 3,843 feet and finished with an 8¼-inch liner, including 310 feet of 50 mesh screen, is producing 14.8 gravity oil which cuts 3 per cent. No. 4 was the smallest of the Shell's completions on the Bluemle lease, it being credited with a maximum output of 70 bbls. of 16.6 gravity oil which cut 4 per cent. It was drilled to 3,875 feet and finished with an 8¼-inch liner, including 270 feet of 60 mesh screen. Nos. 3 and 8 were listed as producing 115 bbls. and 95 bbls. respectively, the output of the former testing 18.1 degrees and cutting 5 per cent and the latter 18.1 degrees and showing a cut of 3 per cent. Both wells were finished with 8¼-inch liners, No. 3 containing 354 feet of 60 mesh screen landed on bottom at 3,872 feet and No. 8 approximately 300 feet of 60 mesh screen landed at 3,860 feet. In addition to these actual completions, the Shell is bailing No. 9 at 3,860 feet and swabbing No. 6 at 3,860 feet and No. 7 at 3,865 feet for production. The remaining well on this property, No. 10, is drilling ahead in a hard sand at 3,200 feet and will probably be listed as a completion within two or three weeks. On the Scarborough property, the Shell landed an 8¼-inch string in No. 5 at 3,850 feet and is drilling No. 4 in an oil sand at 3,728 feet and No. 6 in a similar formation at 3,845 feet. No. 7 is making hole at 2,425 feet.

The company's deep test in the eastern part of the field, No. 2 Kettler, has reached a depth of 4,177 feet but so far the hole has been devoid of any showing of importance. During the coming week the Shell will probably augment its list of producers by three or four more, included in which will probably be No. 1 A. March, finished at 3,904 feet and No. 7 March, now swabbing at 3,860 feet.

Largest Well of Week

Although the Chanslor-Canfield Midway Oil Co. did not bring in as many wells as the Shell, the ouput of its 3 completions far exceeded that of the latter. The former's latest acquisitions, No. 18 Del Amo and Nos. 62 and 66 on the Torrance property, increased the company's daily production 1,423 bbls. No. 62 Torrance, the largest of the company's trio of new wells, came in flowing 830 bbls. of comparatively clean 26.2 gravity oil. It was drilled to 3,708 feet and finished with an 8¼-inch oil string landed on bottom, which carried 490 feet of 60 mesh screen casing. No. 66 Torrance tanked 410 bbls. on its initial test of 26.6 gravity oil which cut 2 per cent. An 8¼-inch oil string was also used in this well, the 490 feet of 60 mesh screen being landed on bottom at 3,700 feet. No. 18 Del Amo did not result in a flowing well and, when put on the beam, pumped 183 bbls. of 19.6 gravity oil during the first 24 hours. This property is not productive of large producers and the outcome of No. 18, which was finished at 3,680 feet, was, therefore, not disappointing.

The company is not experiencing very much success with its Dominguez property and so far has been unable to finisher either No. 1 or No. 2. They are both pumping a small amount of fluid to sump, the greater part of which, however, is water and sand. No. 2, at 3,803 feet, is showing a little improvement and it is possible that it may eventually be recorded as a small completion. The Chanslor-Canfield Midway Oil Co., since drilling its discovery well, has been the largest individual operator in the field and still has the greatest amount of acreage to develop. The company has practically been compelled to drill up its leases in the Torrance part of the field because of the policy of companies having offset leases. In the Redondo section of the district, however, the company has several hundred acres of undrilled land which will probably be developed as occasion demands. The latter properties are, however, productive of only small pumpers and, for this reason, it is believed that the company will refrain from drilling thereon until the present flush production has passed and higher prices are paid for crude. The Chanslor-Canfield Midway Oil Co. does the development work for the Santa Fe Railroad and, since the Santa Fe is a large consumer of fuel oil, it is believed its holdings in the Redondo section of the Torrance Field will be drilled up slowly and held as a reserve for the company's future operations.

The Petroleum Securities (Doheny) is not losing very much time in getting its drilling campaign under way on its Kleine-Meyer leases Nos. A and B. On the former, the company is running 10 strings of tools and has erected rigs Nos. 13, 14, 15 and 22, while on the latter, the first well shows 250 feet of hole.

Standard Operations

The Standard Oil Co. experienced a fairly satisfactory week and, in addition to putting three wells on production, one of which was a clean-cut job, is preparing several others for production tests. No. 3 Joughin, on property recently taken over from the Sentinel Oil Co., the Standard finished as a 260-bbl. pumping well producing 17.1 gravity oil which shows a cut of 3 per cent. It was drilled to 3,820 feet and finished with an 8¼-inch oil string, including 265 feet of 60 mesh screen. On this same lease, the Standard has six wells drilling below the 3,000-foot level, indicating that the company should complete several within four or five weeks. On the Dominguez lease, the Standard completed No. 8 as a 195-bbl. pumper. The oil, which tests 16.2 degrees and cuts 4 per cent, is coming from 3,865 feet. No. 2 Dominguez has been returned to production pumping 150 bbls. after being cleaned out to bottom, 3,884 feet. This well has been showing a good deal of water for some time, but, judging by the the present cut, 20 per cent, the company has not had much success in its endeavors. On this same lease, No. 7, at 3,865 feet, No. 9 at 3,535 feet and No. 10 at 3,526 feet look like early completions. The Standard also experienced a little water trouble with No. 18 Marble Fee, which started off flowing 400 bbls. of fluid from 3,740 feet. About 35 per cent of the output was water but it is not considered of any consequence, since another cement job will probably correct the trouble.

The Big Sioux Oil Co. took over the Consolidated Mutual's Marine Trust lease, upon which a rig had been erected, and immediately went to work. The former's first well in this field, to be known as No. 1 Corbusier, is making hole at 410 feet. The Big Sioux is apparently going after small production, as the White Star Oil & Refining Co.'s property northwest is not commercially profitable at present prices. The Superior Oil Co., running about 12 strings of tools at present, completed several wells but was not successful in placing any on production. On the Torrance lease, No. 28 is being bailed at 3,818 feet, while No. 37, at 3,875 feet and No. 39, at 3,795 feet, are being put on a pumping test. No. 40 was cemented at 3,532 feet, while No. 12 is being abandoned as an unprofitable well at 3,796 feet.

Dominguez

There was one completion recorded in the Dominguez Field during the past week, the new producer standing to the credit of the Shell Oil Co. No. 7 Reyes, the Shell's latest acquisition to its list of producers, was brought in from 4,307 feet, after being finished with a 6¼-inch oil string, including 395 feet of 60 mesh screen and 3,787 feet of 3-inch tubing. During the first full day's test, No. 7 Reyes, flowing through a 1-inch bean under a pressure of 500 pounds, made 1,890 bbls. of clean 32.4 gravity oil. The completion of this well gives the Shell six producers on this lease with a production in excess of 10,000 bbls. daily. In addition to this well, the company has five more drilling below 3,000 feet, which should, barring unforseen delays, be on production within 30 days. No. 1 Childs, which flowed for several hours at the rate of 1,200 bbls. a day a few weeks ago, has been cleaned out to bottom, 4,288 feet. The Shell has experienced a good deal of trouble with this well and just how good this section of the field will prove is still a matter of conjecture. No. 1 Childs picked up the oil sand several weeks ago at 3,920 feet. The company did not make a production test at that time but deepened it to 4,288 feet, at which depth bottom water was encountered. It is believed quite probable the Shell will plug back to exclude this water and, with its elimination, the well stands a good chance of becoming at least a small producer. No. 2 on the same lease, in the extreme eastern part of the field, is drilling ahead at 3,545 feet in a hard sand.

The Superior Oil Co.'s No. 1 Carpenter, a few locations east of the Shell's No. 1 Childs, is drilling ahead in a sticky shale at 4,485 feet, nearly 200 feet deeper than the present depth of the Shell's No. 1 Childs. The Superior has had no showings of any importance but, since the well is logging several hundred feet deeper than No. 1 Childs, there is still a chance to pick up the pay. The Associated Oil Co.'s No. 1 De Francis, southeast of the Shell's No. 1 Childs, staged a rather spectacular blowout during the early part of the week, when the bit penetrated a gas pocket at 3,548 feet. It started off making several million cubic feet of gas a day, accompanied by mud and water. There was only 655 feet of 15½-inch casing in the hole at the time of the blowout and for this reason it is quite probable the company will be forced to start a new hole. The blowout makes this section of the field, which has heretofore been regarded as rather unfavorable, look quite a little better for commercial production.

The Mariand Oil Co. is landing a string of 8¼-inch in No. 4 at 4,165 feet, following a favorable showing. The United Oil Co. shows 4,100 feet of hole in No. 1 Dominguez, while the Birch Oil Co.'s No. 1 Humphries, in the southwestern part of the field, has reached a depth

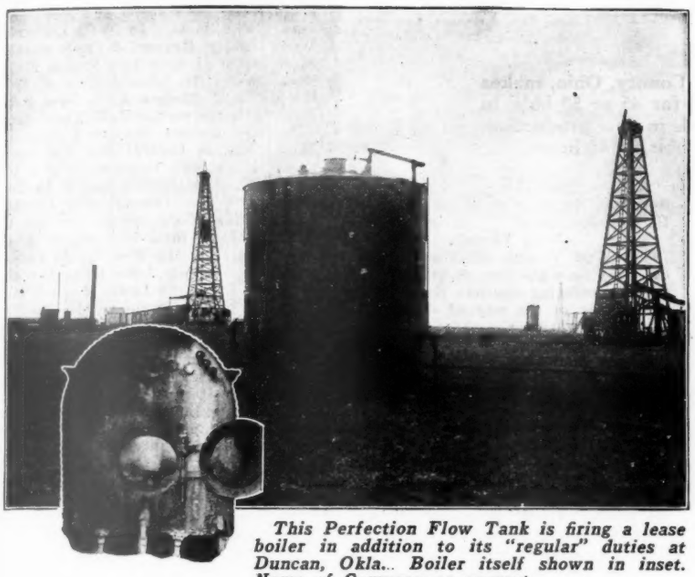
(Continued on Page 114)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

Charles Pratt, July 28, New York, crude	111,781
New Jersey, July 29, Philadelphia, refined	75,381
Agwimex, July 29, Baltimore, crude	95,445
Tuxpanoli, July 30, New York, crude	76,167
H. M. Storey, July 31, New York, crude	108,917
Agwisea, July 31, New York, crude	90,390
Dixie Arrow, August 1, New York, crude	90,881
K. R. Kingsbury, August 3, New York, crude	84,905
La Brea, August 3, Philadelphia, refined	72,843
Coastwise	
Frank G. Drum, July 28, Linnton, fuel	70,780
W. S. Porter, July 29, Seattle, fuel	48,405
Deroche, July 29, Martinez, crude	80,904
Wm. F. Herrin, July 29, Avon, crude	48,606
Richmond, July 29, Seattle, fuel	65,822
Tejon, July 29, Portland, fuel	70,930
Paul Shoup, July 30, Avon, fuel	65,701
Atlas, July 30, San Diego, refined	14,121
Los Alamos, July 31, Portland, refined	37,051
W. S. Miller, July 31, Richmond, crude	75,612
Warwick, August 1, Martinez, refined	41,723
Atlas, August 1, Aberdeen, refined	13,822
Oleum, August 2, Martinez, crude	37,690
Exports	
Los Angeles, July 28, Balboa, fuel	75,211
R. J. Hanna, July 28, Honolulu, fuel	76,226
Mina Brea (Br.), July 31, Chile, fuel	46,964
Lebec, July 31, Honolulu, fuel	75,096
Lubrico, August 1, Honolulu, fuel	81,933
Llo, August 3, London, refined	84,112
From San Francisco	
Charlie Watson, July 28, Coos Bay, refined	14,912
H. T. Harper, July 28, Point Wells, refined	29,571
Yankee Arrow, July 31, Hongkong, refined	94,378
S. C. T. Dodd, August 1, Seattle, refined	76,405
Frank H. Buck, August 2, Linnton, fuel	62,481
Kewanee, August 2, Los Angeles, refined	26,142
Charlie Watson, August 3, Point Wells, refined	13,453

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS



This Perfection Flow Tank is firing a lease boiler in addition to its "regular" duties at Duncan, Okla... Boiler itself shown in inset. Name of Company on request.

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Sayre
Tonkawa
Tulsa
Wynona

KANSAS
Augusta

El Dorado
Florence
Garnett
Gridley
Independence
Madison
Russell
Sedan
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TEXAS
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WYOMING
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Killing Three Birds With One Stone

The Perfection Vapor Pressure Tank used as a gas separator is the most economical piece of oil field equipment you could possibly buy.

Why? Simply because it scrubs oil clean, solves your fuel problem, and delivers excess quantities of gas to the gasoline plant.

"Paying for Itself" isn't an expressive enough term to indicate the real value of the Perfection Flow Tank.

So absurdedly simple too!

It's merely the adaption of centrifugal force in a scientific manner. Installation of a costly gas separator is thus avoided.

The Perfection Flow Tank is just as important in its relation to saving money for oil producers as the Perfection Vapor Pressure Tank, which absolutely eliminates all gaugable evaporation losses.

Get in touch with one of our field representatives today. It will be one of the biggest moves for economy you ever made.

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BARTLESVILLE ~ OKLAHOMA

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Pennsylvania-West Virginia

By D. S. Wakenight

Kachelmacher estate well in Ward Township, Hocking County, Ohio, makes 208 bbls. Carter Oil Co. gets producer estimated good for 45 or 50 bbls. in Perry Township, Licking County. Holmes County leads in new production. Clifton Co. well, Doddridge County, West Virginia, 110 bbls. in 48 hours.

PITTSBURGH, Pa., August 11.—The wells completed during the past week are nearly all in defined territory and their size such as to make many of them doubtful as paying producers. A very large percentage of the completions fell to the duster list, total failures. West Virginia continued its record for completing gassers, some of them very creditable producers. The average size of the wells completed in the West Virginia fields during last month was less than 10 bbls. Southeastern Ohio did a little better, the wells completed having an average of 12½ bbls. Southwest Pennsylvania fell by the wayside and furnished but 10 bbls. new production.

Southeastern Ohio's Best Well

The deep sand territory in southeastern Ohio completed the best producer of the week. In fact it is the best in several months. It is owned by the Kachelmacher Estate and is this company's No. 12 on the James J. Tracey Estate, Section 23, Ward Township, Hocking County, and produced 208 bbls. the first 24 hours after drilled through and shot in the Clinton sand. In Section 25, Perry Township, Licking County, the Carter Oil Co. got a fair well at a test on the Clark Dirflinger farm. It was drilled through the Clinton sand and swabbed 45 bbls. the first 16 hours. After shot it is expected to make a 45 or 50-bbl. producer. On Lot 15, Madison Township, Spindler & Donaldson completed and shot in the Berea grit a test on the W. H. Rogers farm. About 3 bbls. a day will be its limit.

In Liberty Township, Washington County, C. E. Smith & Co. have a light pumper in the second Cow Run sand at No. 4 on the Ida M. Archer farm. In the same township, the Graham Oil Co. started to drill a test on the Daniel Schenkle farm, 1,000 feet south of production on the C. M. Howell farm.

Deep Well Showing Light

In Section 16, Ward Township, Hocking County, the Sunday Creek Coal Co. completed and shot in the Clinton sand No. 116 on the Sunday Coal Creek Co.'s property. They have been bailing a good deal of water and very little oil. It looks as though it would fall to the duster list. The location is 500 feet south of the Wiser Oil Co.'s second test on the Green-Schultz farm. In the southwest quarter of Section 27, Perry Township, the Ohio Fuel Supply Co. completed and shot in the same formation a test on the E. N. Hollen farm. If it makes a producer it will not be good for more than a couple of barrels a day. In Lot 10, Franklin Township, Licking County, W. W. and A. T. Werhle completed and shot in the Berea grit No. 3 on the James Taylor farm, a 4-bbl. pumper. In Newark Township, on the south side of Newark City, the same parties have drilled a test on the Mayme Gorman farm through the Clinton sand, a gasser in the lower sand. In Newton Township, the Ravine Oil Co. completed and shot a test on the Henry Farmer tract, a 3-bbl. pumper in the Berea grit. The East Ohio Producing & Refining Co. has a 3-bbl. pumper in the Bearea grit at No. 13 on the S. S. Snively farm, in Section 13, Brown Township, Knox County. In the old Corning Field, Monroe Township, Perry County, John Denman & Son completed in the Berea grit No. 12 on the Patrick Comiskey farm, a 5-bbl. pumper.

Starting New Work

In Section 3, Hopewell Township, Licking County, the Pure Oil Co. and the Detex Oil & Gas Co. are hauling rig timbers to locations for second tests on the J. A. McCracken and W. H. Young farms. In Hanover Township, the Edward H. Everett Co. is placing timbers at a location on the Felix Claypool farm. In Franklin Township, C. E. Staltzbager, Son & Co. are drilling on the J. W. Motherspaw farm. The Detex Oil & Gas Co. is drilling on the G. E. Cotterman farm. In Monroe Township, Holmes County, the Ohio Fuel Supply Co. is drilling at 1,400 feet on the J. H. Addey farm. Keith Brothers are drilling on their own farm. In Knox Township, Guernsey County, the same company is building a rig on the W. M. Abbott farm. The same company has a rig completed on the William M. Wothing farm.

In Section 7, Liberty Township, Washington County, James Hadley and others completed in the Keener sand a second test on the James Hadley farm, 1,000 feet northwest of the Carter Oil Co.'s test on the Simon Archer farm, and good for 5 bbls. a day. In Section 12, Washington Township, Monroe County, the Simmons Oil Co.'s test on the J. F. Weckbacher farm is a duster in the Berea grit. In Bethel Township, the same company had the same luck at a test on the Robert G. Connor farm. In Section 26, Wayne Township, C. R. Mann & Co. have a light pumper in the Berea grit at a test on the James Hawthorne farm. In Section 5, Washington Township, the Antioch Producing Co. is due in the sand at a test on the Amos Cronin farm. The Wabash Oil Co. started to drill a second test on the John Anderson farm.

In Licking Township, Licking County, W. W. and A. T. Wehrle have a gasser in the Berea grit at No. 4 on the Charles Ice farm. In Madison Township, the same parties have a duster at a test on the O. C. McClelland farm. Inside of the corporate limits of Newark, the same parties are due in the Clinton sand at a test on the Charles Harris farm. In Franklin Township, Moore & Adams completed a light pumper at a test on the T. L. Stevens farm. In Hanover Township, the Carter Oil Co. started to drill a second test on the Jacob Vanderbark farm. In Licking Township, Muskingum County, the Pure Oil Co. is due in the Clinton sand on the Luella Shaw and Hannah E. Baker farms. In Pike Township, Coshocton County, the same company is having trouble with casing leaking at a second test on the William L. Harris farm.

Holmes County Active

Holmes County is leading all others in southeastern Ohio in active development work. At this time there are 18 wells drilling and eight rigs up. The county is also furnishing more new production. In Killbuck, Prairie and Monroe townships nearly all of the work under way and starting is of the experimental kind. initial test wells. The Central Ohio Gas Co. has rigs up for tests on the Eliza Schwier, Thomas Allison and J. H. Leppla farms. The same company is drilling tests on the T. A. Allison and E. E. Comar farms. The same company is due in the sand at a test on the R. E. Robinson farm.

West Virginia

The West Virginia fields are completing many more gas than oil wells. In the old oil producing districts there is very little doing in the way of development work. Operators are marking time, hopeful there will be an upturn in the market. On Thoroughfare Creek, Big Sandy district, Kanawha County, the United Fuel Gas Co.'s test on the W. L. Devert farm is a gasser in the Big Injun sand good for 1,000,000 feet. This is 4,200 feet east of production on the D. C. Taylor farm. On Elk River, Big Sandy district, the same company compelled gassers in the Weir sand on the following farms: D. W. Stump, F. A. Summers, C. W. Lipps and J. O. Jackson. The same company's test on the J. O. Osborne farm is a gasser in the Weir sand good for 2,000,000 feet a day.

On Trace Fork of Mud River, Carroll district, Lincoln County, the Columbia Gas & Electric Co. completed and shot in the salt sand a test on the J. F. Grass farm, a 2-bbl. pumper in the salt sand. One mile north on the same stream, G. L. Meabon & Co. have the rig completed for a test on the A. G. Brumfield farm. On Marietta Creek, McComa district, 8 miles southwest of the Aetna Oil & Gas Co.'s test on the Henry Markin farm, the Monickel Gas Co. has drilled a deep test on the Charles Childers farm. The well was drilled 800 feet below the Berea grit to a total of about 3,000 feet and developed gasser in a stray sand. Its capacity is estimated at 1,000,000 feet. On Anna Maria Creek, Sheridan district, Calhoun County, Thomas Crowley & Co. completed a test on the T. F. Rowand farm, not good for more than 2 bbls. a day in the Berea grit. In DeKalb district, Gilmer County, the Hope Construction & Refining Co.'s No. 3 on the F. C. Gainer farm is a duster in the Big Injun sand.

Shot and Production Increased

On Nutters Fork, West Union district, Doddridge County, the Clifton Oil & Gas Co.'s No. 3 on the S. E. Smith farm, completed last week and showed for a 15-bbl. pumper, was given a 10-quart shot early in the week and produced 110 bbls. the ensuing 48 hours. In Clay district, Monongalia County, the Marshall Oil Co. started to drill from the Big Injun sand to the lower sands, its old No. 5 on the Minor Tennant farm. Three miles north of Ellenboro, Ritchie County, Nay & Kintzer completed a very good gasser in the Big Injun sand on the Okey Howard farm. West of Ellenboro, C. F. Vincent & Co., are building a rig on the John Fox farm. In Grant district, Lucas & Mehaney are drilling on the E. J. Fifer farm and the Hope Natural Gas Co. building a rig on the W. T. Frederick farm. The same company has rig material and tools at a location on the W. M. Wass farm. In Butler district, Hancock County, the Mount Horeb Oil & Gas Co. completed in the Berea grit a test on the C. S. Truax heirs' farm. It is a light gasser, 1,500 feet east of the same company's test on the C. S. Truax farm.

Light Pumpers and Dusters in Ritchie

In the Goose Creek Pool, Grant district, Ritchie County, the Adams Oil Co. has a 12-bbl. pumper in the Keener sand at No. 3 on the Anna C. Adams farm. In Murphy district, the Hope Natural Gas Co.'s test on the N. J. Marshall farm is dry and abandoned. The Hope Construction & Refining Co. is through the Squaw sand at No. 4 on the Neil Bradley farm in Grant district and showing very light. It will be given a shot and tested. In the same district, Mellon Brothers have a 5-bbl. pumper in the salt sand at No. 4 on the A. J. Hull farm. In Clay district, the Stephens Drilling Co. has a duster at a test on the Isaac Doak farm. In Walker district, Wood County, Rexroad & Davis completed a duster at their test on the F. W. Reese farm. In Lincoln district, Tyler County, U. J. Morgan & Co. have a fair gasser at a test on the U. G. Thorn farm.

In Otter district, Braxton County, the West Virginia Central Gas Co. has a gasser in the Big Injun sand at a test on the E. J. McElwain farm. In Troy district, Gilmer County, the Carnegie Natural Gas Co.'s second test on the E. M. Talbott farm is a gasser in the Big Injun sand. In West Union district, Doddridge County, the Columbia Gas Co.'s No. 50 on the Lewis Maxwell farm is a light pumper in the Gordon sand.

In Mannington district, Marion County, C. A. Snodgrass drilled a test on the Caroline Toothman farm through the Big Injun sand. It is a gasser. In the same district, the Hope Natural Gas Co.'s test on the Nancy L. Murray farm is a gasser in the fifth sand. In Collins Settlement district, Lewis County, the Pittsburgh & West Virginia Gas Co. has a gasser in the Gordon sand at a test on the Enon Clark farm. In the same district, E. C. McCall & Co. have a duster in the fifth sand at a test on the George Hall farm. In Union district, Ritchie County, the Carnegie Natural Gas Co.'s test on the Walter Somerville farm is dry in the Big Injun sand. In West Union district, Doddridge County, Walter Nutter has a very light pumper in the Big Injun sand at a test on the Philander McKinney farm. In Grant district, Ritchie County, Harlie Rinehart & Co. have a salt sand gasser on the Newton Law farm. In the same district, the Carpenter Farm Oil Co.'s test on the J. Carpenter farm is dry in the Big Injun sand. In Center district, Gilmer County, Bennett & Pearcy have a duster at a test on the Winifred Winemiller farm. It has been abandoned. In the same district, the Yanner Oil & Gas Co.'s test on the S. P. Miller farm is a gasser in the Maxon sand. The Carter Oil Co. has a gasser in the Big Injun sand at a test on the Miner Horner farm, in Otter district, Braxton County. In Birch district, the Mill Fork Oil & Gas Co. has drilled deeper No. 3 on the C. R. Bourne farm. It is a gasser in the Big Injun sand.

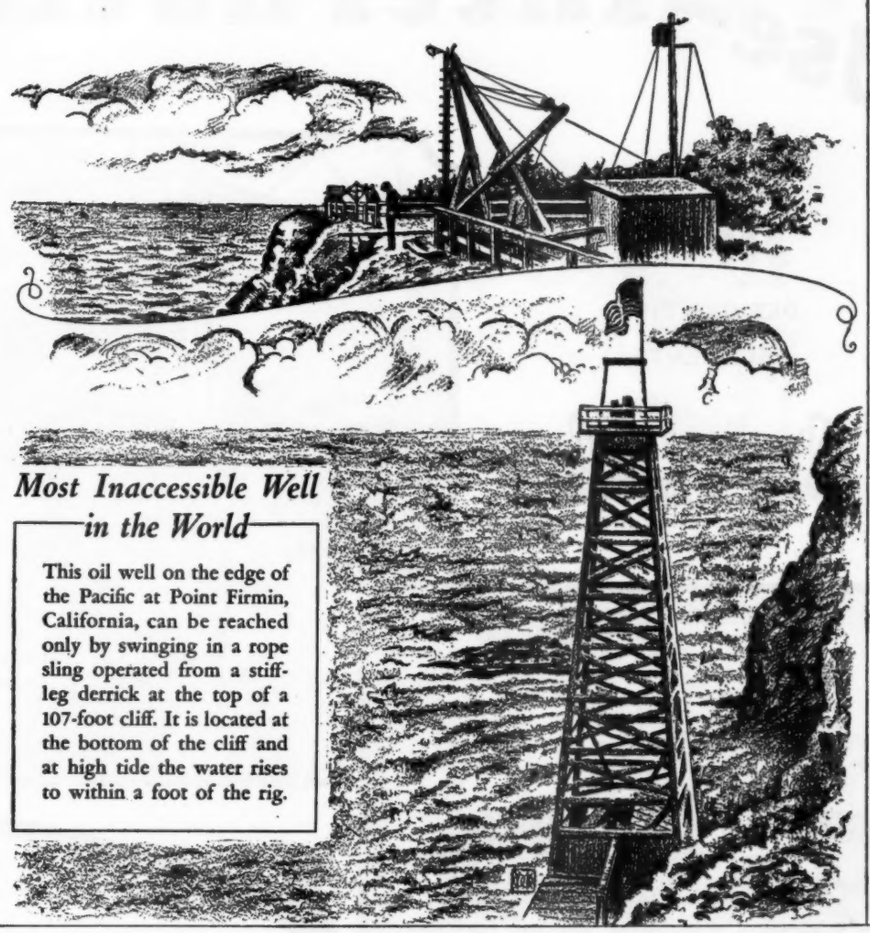
Fair Gasser in Tyler County

On Big Buffalo Creek, one-half mile north of Stewart Station, Union district, Tyler County, Morgan Brothers & Co. drilled a test on the Grant Thron farm through the Keener sand, a gasser good for 2,000,000 feet a day. In Courthouse district, Lewis County, the Reno Oil & Gas Co. drilled its test on the T. J. Lough farm through the fifth sand and dry. On the head waters of Hughes River, Clay district, Ritchie County, the Stephens Drilling Co.'s test on the Roscoe McCullough farm is dry in the Big Injun sand. In Murphy district, on the same river, the Hope Natural Gas Co.'s test on the N. J. Marshall farm is dry in the Squaw sand.

Test Wells Starting and Drilling

There is not a great deal of importance attached to the test wells drilling and starting in West Virginia. Most of them are located in defined territory. In Geary district Roane County, the Tawney Oil & Gas Co. is drilling on the S. L. Tawney farm. In Walton district, the United Fuel Gas Co. started to drill on the J. P. Young and W. M. Sergent farms. In Smithfield district, W. P. Heater made a location on the L. J. Meadows farm. The United Fuel Gas Co. also made locations on the R. O. Samples and W. J. Justice farms. The Randall Gas Co. shut down for casing on the Noah Wright farm in Clay district, Monongalia County. In Union district, Lincoln County, the Orlando Oil & Gas Co. has a rig up

(Continued on Page 98)



Most Inaccessible Well in the World

This oil well on the edge of the Pacific at Point Firmin, California, can be reached only by swinging in a rope sling operated from a stiff-leg derrick at the top of a 107-foot cliff. It is located at the bottom of the cliff and at high tide the water rises to within a foot of the rig.

CRESCENT WIRE ROPE
100% UNIFORM

It's a long stretch from the oil fields of California to those of Texas, but you can find one thing in common in both places—it's Crescent Wire Rope...The demand for "Crescent" in every oil field is based on one thing only and that's honest-to-goodness quality. For extraordinary strength, for flexibility, for uniform lubrication, for resistance to abrasion and corrosion, you can bet on Crescent Wire Rope every time...It pays to buy "Crescent"—the utmost in wire rope.

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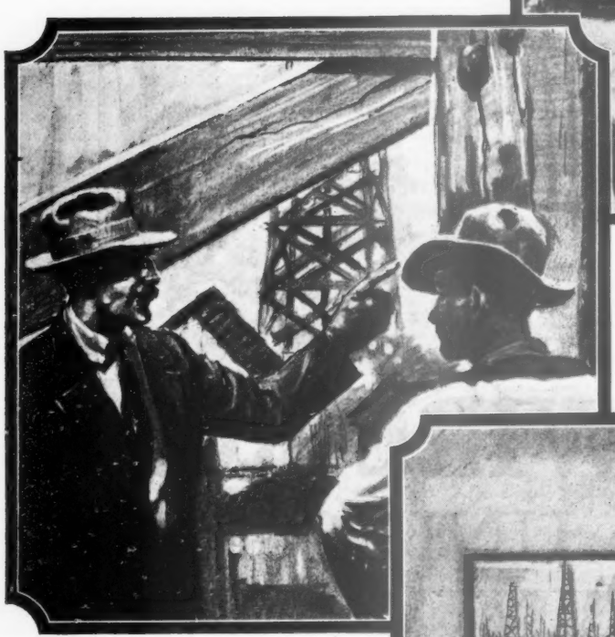

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Steel Bull Wheels
Steel Calf Wheels
Steel Band Wheels
Steel Tug Rims
Steel Crown Blocks
Steel Walking Beams
Standard Steel Buildings

Steel Derricks

Because—
the Old-Timer Says So

"Young feller, you can get that idea about steel derricks drillin' a crooked hole outa your head. A derrick's got nothin' to do with the actual drillin'! It's no more than a hoistin' machine for your tools and casing.

"After listenin' to a lot of hard shells talk I had the idea steel derricks was too rigid fer fast work, but, believe me, son, the first 'International' I ever worked under was an eye-opener for this old man. She's just right—not too stiff, an' not too limber. And it was some satisfyin' to know she would stand a lot of heavy drillin' and swabbin', high winds, and years o' weather without fallin' in on my head. And as far as speed goes—I made hole faster with an International than I ever made in 30 years o' drillin' with wooden ones!

"Unless you're going to kick about not finding any place to drive a nail in her to hang your hat on, I advise you to git under an 'International' *quick!* All this talk against steel derricks is 'bunk!'"

The Field Superintendent Says So

"Well, Jim, the big boss is sure 'sold' on International Steel Derricks. All these rickety wooden affairs are going to be scrapped! That news sounds good to me all right, for I was wondering how I was going to keep both my job and reputation if I had to put up much longer with these old fashioned wooden rigs that blow over, pull down, and rot through before we get our money's worth out of them.

"You'll get a new International in a couple of days, and then I don't expect to hear any more kicks about derricks from *you!*"

"You won't boss!"

The President Says So

"Miss Keyes, please take a letter to the General Manager, General Supt., and all Field Supts. of this company:

"Present day competition in the oil business requires that we equip our properties with permanent, durable production machinery. Wooden equipment has been proven the most extravagant item in the producing end of the oil business. Thousands of wooden derricks are destroyed each year by wind storms and fires. Our Auditor has shown me where the yearly cost of the wooden derrick, per well, is six times greater than by using an International Galvanized Steel Derrick. I am disbusted with wooden derricks and have concluded that from now on, our company will adopt an International "Ideco" reinforced steel derrick program. The first cost will be greater than that of the wooden derrick, but the yearly derrick cost per well will save our company thousands of dollars.

"Our cost records, as well as those of many other companies, show that it has been an economy to replace all wooden production derricks with "Ideco" Galvanized Steel Derricks, and on future locations, to drill the well with this type of reinforced derrick and leave the inner unit in place for production purposes.

"I have received very satisfactory reports from the foremen who are drilling and pumping with these derricks. This company, beginning with this date, will standardize on International Steel Derricks, and all purchases of same are hereby authorized."

The International Derrick & Equipment Co.

Columbus, Ohio **Los Angeles, Cal.**

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EXPORT REPRESENTATIVE 2000, 2 Rector St., N. Y.

The Largest Company Devoted Exclusively to the Manufacture of Steel (Galvanized) Equipment for the Oil, Gas and Artesian Industries

West Kentucky—Tennessee

By Vern T. Whitney

Carnahan & Co.'s No. 2 Leach, Creelsboro Field, Russell County, 50 bbls, natural, several miles from production; No. 3 estimated 75 bbls. Creelsboro Oil Co.'s 50-bbl. pumper may open new pool. Young Oil Co.'s No. 3 Lawrence Coffee, Kettle Creek, flows barrel a minute but drops to 5 bbls. an hour.

BOWLING GREEN, Ky., Aug. 11.—Another drop in the price of crude oil, the starting of 16 wells in three different counties, three good completions in Russell County; and a 250-bbl. starter in the Kettle Creek district of Monroe County feature the week in the Western Kentucky Field.

Of the 16 wells started in the Western Kentucky Field during the week, six in Allen County and the same number in the Owensboro district, while Warren and Barren Counties are credited with four each.

In Allen County, H. B. Bastrus was rigging up No. 2 Carver; the Flopakas Oil Corp. was spudding No. 8 C. C. Stovall; Victor de Caigny was down 180 feet in No. 26 S. T. Allen; the Pelican Oil Co.'s No. 18 Susan Moore was spudding; the American National Bank was rigging up to drill No. 19 R. Mitchell, and unknown parties were spudding at 56 feet on the No. 13 M. C. Fisher.

In the Owensboro district, comprising Hancock, Ohio, and Daviess Counties, Harman, Young and others' No. 1 J. H. Milligan; Kentucky Oil Co.'s No. 15 Amanda Stewart; Leeper Oil Co.'s No. 5 Dr. Garrett; Wood Oil Co.'s No. 1 Harrison; Panther Creek Oil Co.'s No. 8 R. M. Miller and the Dearborn Oil Co.'s No. 3 W. T. P. Barker were being started.

T. A. Sheridan's No. 6 G. Davenport; Cunningham & Henry's No. 1 Dunscome; White Oil Corp.'s No. 10 J. T. Scott and the Westland Oil Corp.'s No. 26 C. A. Keller were spudding in in the Warren County Field. In Barren County, Lewis J. Emery, Jr. & Sons were rigging up on the Saunders; T. L. Gregory was spudding No. 2 Beard; Callahan & Winn's No. 2 Winn was spudding while the Baird Oil Co.'s No. 3 Kinslow was drilling below the shale.

Russell County Wells

Three of the best strikes of the year appear in the past week's completed work in the Creelsboro Field of Russell County. The first of the late strikes was made by the Carnahan Oil Co. of Canton, Ohio, under the supervision of C. J. Davidson of Creelsboro, Ky in No. 2 on the B. F. Leach tract. This well, which has three distinct oil bearing sands, same is making 50 bbls. naturally, and constitutes one of the most important wells yet drilled in the entire field as it is several miles in advance of production, and opens up a new and distinct pool. No. 3, on this same farm, just drilled in, looks good for 75 bbls. from 3 different sands. This completion will be put on the pump within the next few days and tested. Mr. Davidson has set a rig on an offset location and states that his company will carry on quite a drilling campaign this summer.

In addition to the two strikes on the Leach farm, the Creelsboro Oil Co., under the combined management of W. A. Armstrong and L. G. Weddle, drilled an old well on the John Coffee lease to the second Sunnybrook sand and was rewarded with a 50-bbl. pumper. This is the first test to be drilled to this sand and it proves a new pool, and will serve to stimulate activity in the Russell County area.

Drilling Wells

Carnahan and others' No. 3 Dalton was drilling at 70 feet. This test is being watched very closely as it will connect the Miller's Creek and Ramsey's Creek Pools, a distance over 1 mile, if it proves to be productive.

Local parties have made a location on the Nellie Bledsoe farm and will move a rig in at once and start active drilling the Carnahan Oil Co. is moving a rig to No. 1 location on the Blakey Bros. farm where it will make a deep test.

Armstrong & Co. have oil and salt water in the old Gabbert test at 1,400 feet. Pumping equipment has been ordered and the operators will make an effort to reduce the salt water after which they expect a paying pumper. These same parties are drilling No. 3 Widow Coffee and No. 3 Ed Cambell.

Redman and others' No. 1 O. A. Lay, near Olga, Post Office, was reported shut down at 300 feet.

Cumberland-Monroe Counties

The biggest feature of the week was the bringing in of the Young Oil Co.'s No. 3 Lawrence Coffee, in the Kettle Creek district of Monroe County. At about 580 feet and 100 feet under the Pencil Cave, in the Modoc sand, this well flowed for a while at the rate of a barrel a minute, almost filling a 250-bbl. tank. After being put on the pump it made 10 bbls. an hour for five hours; it then dropped to 5 bbls. per hour at which rate it was pumping at this writing. The Coffee tract adjoins the rich Logan lease of the Daniel Boone Oil Co.

Combest & Carter on the Huddleston & Payne lease, on Sulphur Creek, T. S. Heckathorne contractor, were down 571 feet, 18 feet below the Pencil Cave without a showing. They have a chance there for the Judio sand of which they were immediately on top; of the Modoc, about 90 feet belo wwhere they now are; or in the Heard, about 250 feet below the Pencil Cave; or the Cloyd, about 200 feet below that; and then in several other poorly known sands between that and the Kanawha or Willams sand, 700 or 800 feet below the cave and about 1,350 to 1,450 feet below the usual surface location, increasing as the height of the hill.

The Kanawha Oil Co., Burgess Brothers, contractors, is rigging up on its new location on the M. E. Coop, and will be spudded in next week.

The Parris well, on Brush Creek, has been delayed. While pulling some casing from an old hole to use in the new, the contractor snapped his mast and had to wait until a new one can be hauled in.

The Bob Pharos well, of the Wilcox Bros., is shut down temporarily at 1,240 feet or 200 feet below the Pencil Cave, and is beginning to look like a duster; but the contract calls for 50 feet more which will be drilled and this will put them in the top of the Heard sand. At present they are in a good looking brown sugar sand, which may be the top of the Heard, in which case the next 50 feet will tell the tale. Whether the Cloyd or Kanawha sands will be drilled to at present is doubtful as there has been no drilling to them in that section. Bear Creek and their values are problematical; and, ince this well started from the table land and is consequently much deeper than ordinary, it has already cost more than contemplated at first.

Barren County Completions

Barren County led in the number of completions for the week, also in the number of active drills running, the first time in its history. Leases are changing hands very rapidly in all sections and are being taken mostly by seasoned operators.

The JCS Oil Corp. of Pennsylvania, has taken over a block of leases lying ahead of the Moore and Zeigler wells and expects to start activities at once. This same concern has purchased the Winleck property consisting of six wells completed in the first pay and is moving a rig to the property to drill the wells to the pay 185 feet below the shale.

In the Emery-Moore Pool, the Carter Oil Co. completed its No. 7 Wininger for 20 bbls. at 563 feet. Top of the pay was found at 552 feet. Shale was from 290 to 340 feet and 6¼-inch casing was set at 160 feet. The Carter Oil Co. is drilling below the shale in No. 6. The Houchins Leasehold Co. of Pradford, Pa., got a 17-bbl. starter in No. 7 Ziegler, after a 20-quart shot from 542 to 553 feet. The shale was found from 286 to 320 feet. Casing was set at 85 feet. On the Dreenan tract, Ziegler Brothers have a 4-bbl. pumper in No. 3 at around 550 feet. Casing was set at 99 feet and the shale was struck from 284 to 334 feet. On the W. S. Smith farm ,the Akers Oil Co.'s No. 14 is a 12-bbl completion at 458 feet. Twelve feet of sand was treated to a 20-quart shot. Casing was set at 250 feet.

A wildcat on the Kinslow farm, 9 miles south of Glasgow, drilled by the Emery interests, was dry and abandoned at 500 feet.

In the Hiseville district, 10 miles north of Glasgow, the South Saint Paul Oil & Gas Co.'s No. 3 Vincent started off making 6 bbls. at 628 feet.

R. A. Dale's No. 3 Preston, one-half mile north of Glasgow, on Beaver Creek, is a 5-bbl. pumper after a 20-quart shot from 487 to 495 feet.

Drilling Activities

Star Oil Co.'s No. 3 Star was drilling at 400 feet; sae company's Nos. 6, 7, and 8 Ritchie was drilling at 275, 450 and 516 feet, respectively; same company's No. 3 Free is a rig; Houchins Leasehold Co.'s No. 1 Porter was gassing at 551 feet; Shaw Oil Co.'s No. 8 Childress was drilling at 180 feet; Brewer & O'Neil's No. 2 Jim Lewis was down about 47 feet; Carter Oil Co.'s No. 6 Wininger was on the sand; Kopel's No. No. 2 Neeley was 2 feet in the second pay; J. G. Esslinger's No. 2 Mann was progressing at 260 feet; Fred Moore's No. 3 McCubbin, Fred Williams' No. 1 Hutchinson, Norris Brothers' No. 1 Scott and the Baird Oil Co.'s No. 2 Kinslow were drilling in the second pay; Elem Oil & Gas Co.'s No. 11 Warder was making hole at 125 feet; J. C. S. Oil Corp.'s No. 1 Winlock was being drilled deeper; its No. 1 Green was 80 feet below the shale; Stafford & Maxey's No. 2 Ritter Brothers was shut down on account of litigation of title; Norris Brothers' No. 2 Duff was spudding at 40 feet; B. B. Rice's No. 1 Taylor was a rig; G. W. Pyle's No. 1 Williamson was drilling in the shale; South Saint Paul Oil Co.'s No. 7 L. Summers was making headway at 510 feet; Amos & Barr's No. 1 Summers was shut down; W. R. Jackson's No. 2 Creek was a rig; Taylor Bishop's No. 1 Bishop was spudding.

Warren County News

Two producers and one abandoned hole marks the record in Warren County. Gordon Fielder's No. 2 J. L. McGinnis, in the White Stone Quarry area, was finished in the second pay below the shale for a 7-bbl. pumper. No. 1, drilled several months ago on this farm, is holding up very nicely. It started at 8 bbls. and is still hitting the 5 mark.

In the Eastern section, C. E. Karns and others' No. 1 Lawrence showed for 5 bbls. at 460 feet. Sand from 449 to 456 fet was treated to a 20-quart shot of nitroglycerin. F. W. Evans' No. 1 Miller, in the vicinity of Greencastle, was abandoned at 250 feet.

Deel Well Drilling Depths

In the Davenport Pool, west of Bowling Green, T. A. Sheridan's Nos. 2 and 3 G. Davenport were waiting on shot at 925 and 850 feet, respectively; same parties' Nos. 5 and 6 were down 450 and 200 feet, respectively, while No. 4 was shut down at 875 feet; C. E. and E. J. Onsel's No. 2 Ora Davenport was waiting on connection at 435 feet. Westland Oil Corp.'s No. 26 C. A. Keller was drilling at 540 feet; White Oil Corp.'s No. 10 J. T. Scott was making headway at 150 feet; H. J. Dobson's No. 4 George Riggle-wood was down 400 feet and drilling.

McLemore-Gillespie-Price Pool, H. W. Ennis and others' No. 2 Virgil Porter was drilling at 900 feet; Amfot Oil Corp.'s No. 3 Temp Bailey was in the sand; Cunningham & Henry's No. 1 Dunscome was spudding at 82 feet; Clarke and others' No. 4 Gilliespie 103 acres, was drilling at 304 feet; Roy Hogan's No. 2 Butts was drilling at 200 feet; D. T. Bolling's No. 1 Smith was drilling at 192 feet; Ohio Fuel Oil Co.'s No. 7 Garret was showing for 5 bbls. after a 40-quart shot at from 1,101-1,110 feet; No. 2 Grider-Gardner was shut down; Wood Oil Co.'s No. 4 O. Grimes was drilling at 232 feet; same company's No. 14 Jim Isabel was spudding; Royal Oil Co.'s No. 2 R. H. Gott was progressing at 432 feet. The latter five wells are in the Waller Runner Pool.

Allen County Activity

The past week in the Allen County Field showed six completions, five producers, with an initial yield of but 27 bbls. The cut in the market has had an effect on drilling activities and 12 less rigs are running this week.

In the Satterfield Pool, west of Scottsville, J. G. Esslinger's No. 4 G. W. Willoughby is an 8-bbl. pumper at 365 feet. Sand was shot with 20 quarts. No. 3 is drilling below the shale on the B. S. Ayers farm, the S. R. S. Oil Co.'s No. 6 was reported dry at 453 feet.

In the Bay's Fork district, near the Warren County line, the West Penn Oil Syndicate's No. 10 Peerson, started off making 7 bbls. at 347 feet. No. 11 was drilling at 340 feet without a show.

At Gainesville, J. R. English's No. 9 A. Hoby finished up at 386 feet for 8 bbls. Roberts & McNeil's No. 11 Fisher made 3 bbls. at 450 feet after a 20-quart shot.

In the Kerley Pool, the Florence Oil Co.'s No. 7 Lathenwell pumped 1 bbls. at 265 feet. Reports state that Bastrus & Parson's No. 1 Wheat is pumping 125 bbls. daily. This well was completed several months ago and has made a large amount of oil.

It is reported that the Nashville Oil Co. has purchased the refinery and gathering lines of the Producers Pipe Line & Refining Co. The lines run from Franklin, in Simpson County to the Mt. Aerial District, in Allen County. It is stated, however, that this new concern will discontinue taking oil from the Mt. Aerial district.

Owensboro Work

In the Herbert School House district, Owensboro district, Nutty & Pyle's No. 2 Ed Baker is a 9-bbl. pumper at 752 feet; Pennsylvania Oil Co.'s No. 8 F. V. Miller made 7 bbls. in the Barlow sand; same company's No. 5 Abe Howe 45 acres, started off at 12 bbls. from the Barlow sand; Kentucky Oil Co.'s No. 1 J. W. Burdette was dry in all sands.

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No. 9

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DAYTON, OHIO

Fields of the Central West

By Whit

Madison County, Kentucky, to get first real oil test. Black Gum Oil Co. gets 50-bbl. well in Idamay Field and Hupp, Duff and others 30 bbls. Showing in southern Pike County, Indiana. Indications of new shallow sand in Spencer County. Three good wells in Wabash County, Illinois.

FINDLAY, Ohio, Aug. 11.—Madison County, south of Kentucky River Fault, in the Eastern Kentucky Field, is about to get its first real oil test. J. N. Thompson and others of Indianapolis, Ind., operators of 20 years' experience, have let contracts for two test wells to be drilled immediately. The first will be located on the D. J. Williams land, on the Kentucky River, near Boonsboro Station, formerly the Shearer Station, on the L. & N. Railroad. Mr. Thompson and others have taken over a large block of acreage in Madison, Clark and Estill Counties, which has been highly recommended to them by C. P. Coleman.

If the test on the Williams farm proves to be a producer it will undoubtedly mean that a large number of wells will be drilled on an almost direct line to the southeast in an effort to connect the new district with the famous Irvine Pool, in Estill County. The structures in Madison County are very pronounced, and from reports made by the United States Geological Survey, this county has every chance of becoming one of the best oil fields in the State.

Your correspondent has just returned from a trip down the Kentucky River, starting from Boonsboro Beach and continuing down the river for 7 miles where three good structures were exposed. This territory is traversed by the Kentucky River Fault which can also be seen plainly. In the famous Irvine Field, 20 miles away, all of the production has been found south of this fault, which makes the chances for the finding of oil in Madison County as good or better, as the structures are larger and carry more cover than in the Irvine Field.

The test being made south of the Kentucky River Fault on the D. J. Williams, in the northern part of Madison County and 9 miles south of Winchester, about the same distance north of Richmond, by J. N. Thompson, was drilling at around 50 feet. A shallow sand is expected to be found at from 260 to 300 feet, which is known as the Clinton Lime, the main producing formation of natural gas and oil in the Central Ohio Field where this formation is found at from 2,700 to 3,300 feet. J. N. Thompson has just taken over an old well on the C. W. Cobb farm, 2 miles south of Boonsboro Station and will deepen it from its present depth, 1,050 feet, to 1,250 feet or deeper. Gas was encountered in this well in a shallow sand at 265 feet. It is the belief of many operators that this well will show production when drilled to the intended depth.

Should oil be found in commercial quantities in the wildcat, there is a ready market for the crude, either by barges on the Kentucky River, or the Cumberland Pipe Line Co.'s system but a few miles away, and if gas is found, it is only a short distance to the trunk gas line running to Louisville and other western Kentucky towns.

Kentucky Operations

In the North Weir Field of Lawrence-Johnson County, but one completion is reported, the Union Gas and Oil Co.'s No. 1 W. D. Lester farm, with a flush of 20 bbls. from the Weir sand. This company has started the drill at No. 5 D. H. Ferguson, as well as at No. 22 Sanford Lyons farm. Four other new wells started drilling for this company during the week, No. 5 Harrison Bailey, No. 28 Proctor Sparks, No. 1 Foster Ferguson and No. 9 D. W. Skaggs farm.

In the South Weir Field of Johnson-Magoffin Counties, the Petroleum Exploration Co.'s No. 25 W. S. Adams farm, showed 4 bbls.

In Wayne County, Dillon, Marsh & Browns' Nos. 3 and 4 J. A. Brown farm, are estimated at 10 and 11 bbls. respectively. George A. Hook and others have started No. 1 on the M. F. Hicks farm, in the Hidalgo district. Head, Brown and others are drilling No. 9 H .& B. Upchurch farm, same district. C. E. Daugherty and others are drilling a second test on the Ira Guffey farm.

In Morgan County, the Petroleum Exploration Co.'s No. 3 on the Kendall heirs farm, is reported at 550,000 feet of gas.

In Lee County, the Petroleum Exploration Co.'s No. 8 George Botner farm, in the Idamay district, showed 40 bbls. at 1,414 feet, and No. 9 at 40 bbls. from a depth of 1,432 feet, with No. 10 drilling. Its No. 7 Brandeburg-Courley lease is reported a dry hole, with a rig in for No. 7. Its No. 2 Rufus Jackson farm produced 15 bbls.

The Black Gum Oil Co.'s No. 4 on the Gourley-McGuire lease, in the Idamay district, of Lee County, produced 50 bbls. No. 5 is drilling. Fred Miles drilled a 4-bbl. well at No. 1 on the Dunningham farm, while the Petroleum Co.'s test on the Connelton farm, four miles south of Beattyville, proved a duster. Hupp, Duff and others' are drilling No. 3 Adaline Porter and No. 1 on the George Porter farm, same field.

In the Idamay district, Lee County, the Halley Petroleum Co.'s No. 8 Gourley-McGuire lease, is reported at 5 bbls., while Hupp, Duff and others' No. 1 on the George Porter, is credited with 30 bbls.

Cumberland Runs

The Cumberland Pipe Line Co.'s runs through its gathering lines for the week closing July 26, totaled 76,475.70 bbls. for a daily average of 12,412.12 bbls. These runs are from the Eastern Kentucky fields.

Indiana

The most important event in the Indiana Field was the well being drilled by J. H. Sullivan and others' on the William Ellert farm, Section 11, Lockhart Township, in the extreme southern part of Pike County, and about half a mile west of the town of Stendale. This well got a showing of oil at a depth of 1,305 feet, and may be drilled to a greater depth, and if so, and oil is not found lower down the well will be given a shot at the 1,305-foot level.

Another important well is that of Dana D. Flannagan on the Belle Frakes farm, Section 2, Jackson Township, Spencer County, 600 feet from the north line and 500 feet from the east line of the farm, in the southeast quarter of the section. This well tapped the sand at 756 feet and went to a depth of 770 feet, the well being estimated at 2 bbls. The well is north of Owensboro and the Ohio River and may mean the opening of a new shallow sand field.

In Hamilton Township, Sullivan County, Mayfield and others' test on the southwest corner of the G. Parks, in the northeast quarter of Section 29, proved a duster at 792 feet. Fred Bays is drilling a second test on the W. H. Huff, Section 35, Turman Township, same county.

In Harrison Township, Knox County, P. C. Andrews and others' test on the northwest corner of the Slaton F. Barlow farm, in the northeast quarter of Section 30, pumped 20 bbls. from a depth of 1,260 feet.

Good Luck Oil Co. is drilling No. 7 A. Atkinson, Section 23, Logan Township, Pike County. Nelson Brothers are drilling a test on the August Yager, Section 9, Monroe Township, same county.

Illinois

Wabash County is now the active spot in the Illinois Field, and within the past few days has shown a total of six completions, three producers and three dry.

The Arkansas Fuel Oil Co.'s No. 8 on the Della Wright farm, Section 8, Wabash Township, struck top of the Jordan sand at 1,560 feet and drilled to a total depth of 1,592 feet, where it was given an 80-quart shot, responding with a flush of 140 bbls. This company's No. 1, on the southwest corner of the Clara Smith farm, Section 5, has been abandoned. The Adams Corner Oil Co.'s No. 4 J. T. Smith farm, Section 22, struck top of the Biehl sand at 1,471 feet, with 21 feet of sand to 1,492 feet and drilled to a total depth of 1,501 feet and shot with 80 quarts, producing 130 bbls. The Coons Creek Oil Co.'s No. 1 A. Biehl, Section 15, produced 80 bbls. flush. Young and others' No. 1 John Lee, Section 22, was given up as dry at 1,515 feet, and Timberlake and others' No. 1 on the southeast corner of the George Lovelett, Section 15, was dry at 1,560 feet.

In Martinsville Township, Clark County, the Titus Oil Co.'s No. 1 on the Mary J. McClelland, in the northeast quarter of Section 30, pumped 25 bbls. from the stray sand at 1,417 feet, and the Ohio Oil Co.'s No. 13, S. M. Brosman farm, same section, pumped 25 bbls. at 1,414 feet.

In Montgomery Township, Crawford County, W. C. McBride, Inc., No. 1 C. A. Dickenson, Section 14, pumped 6 bbls. at 960 feet.

In Bridgeport Township, Lawrence County, the Snowden-McSweeney Co.'s No. 41 on the C. B. O'Donnell farm, Section 17, pumped 6 bbls. at 1,350 feet. In Petty Township, the same company abandoned Nos. 10 and 25 M. X. Piper farm, Section 12.

In Sandoval Township, Marion County, the Southwestern Oil & Gas Co. abandoned No. 11 on the A. E. Benoits, Section 8.

Central Ohio

But few completions were reported from the Central Ohio fields and they were rather small gas wells or dry holes. In Orange Township, Ashland County, the Logan Gas Co. drilled a dry hole in a test on the E. W. Brown, Section 5. This company, in the same township, is drilling No. 1 Jacob Snyder 60 acres, Section 5. and made a location for No. 1 on the Eliza McBride 106 acres, Section 8, and No. 2, on the J. B. Sprott 65 acres, Section 6. In Litchfield Township, Medina County, the same company staked out a location for a test on the George E. Kennedy 38 acres, Lot 56. Same company made three new locations in York Township, Medina County, in No. 2 on the H. G. Wolf 156 acres, Section 11; No. 1 George F. Gunkleman 100 acres, Section 2, and No. 2 on the E. M. Brentwell 95 acres, Section 22.

In Brunswick Township, Medina County, the Central Ohio Gas Co. stuck a stake for a test on the D. F. Tilleton 88 acres, Section 4.

In Grafton Township, Lorain County, the Chestnut Oil Co. drilled a light gas well in its No. 3 on the Catherine Wyckoff farm, and the Wiser Oil Co. made a location for No. 1 G. A. Harold farm, while the Ohio Fuel Gas Co. started the drill at No. 1 on the C. C. Schwartz 66 acres, Lot 48.

In Strongville Township, Cuyahoga County, the Wiser Oil Co. drilled only a fair gas well at a test on the Hathaway lease.

Lima Field

The old Lima Field of Northwestern Ohio has become quite a factor in the Central West Field, owing to extensions to old producing areas, to say nothing about the rejuvenation of leases abandoned some years ago after producing for many years, and in nine cases out of 10 the old territory surprises the trade by bringing in wells of good size.

The territory around the town of McGuffey, in McDonald Township, Hardin County, a new addition to the south of the old field, is attracting considerable attention, since several producing wells have been opened above the average producer of the old Trenton Rock formation. The latest completion was by Whipple, Ulrich and others in No. 1 on the northeast corner of the Arthur Zimmerman farm. The well is credited with 40 bbls. With a little advance in the price of crude, this new field should show quite a spurt, as it is one of the "double-barrel" fields, where gas is also found in commercial quantities, with a ready market. In Marion Township, same county, Schmidt & Holmes drilled a dry hole in No. 1 on the Sciote Land Co.'s acreage, Section 23, and while the well has a slight showing of oil, it is listed a duster. Top of sand was found at 1,410 feet and drilled 50 feet in to a total depth of 1,460 feet.

In the Darke County Field, a nice well has just been brought in by R. P. Early, trustee, in No. 7 Charles Miller farm, Section 11, Mississinewa Township. In Allen Township, same county, the Mondarke Oil & Gas Co.'s second test on the southeast corner of the G. L. Toman farm, Section 7, produced 2 bbls. of oil along with 500,000 feet of gas.

In the Elmore Field, in Harris Township, Ottawa County, Gust Magsig & Son's No. 1, on the southeast corner of the W. E. Stewart, Section 23, pumped 14 bbls. at 1,290 feet. Fox and others' No. 1 John B. Netcher farm, Section 18, on the southeast corner of the lease, pumped 9 bbls. at 1,311 feet, while the Elmore Oil & Gas Co.'s No. 3, on the Albert Weis, Section 17, pumped 12 bbls. at 1,320 feet.

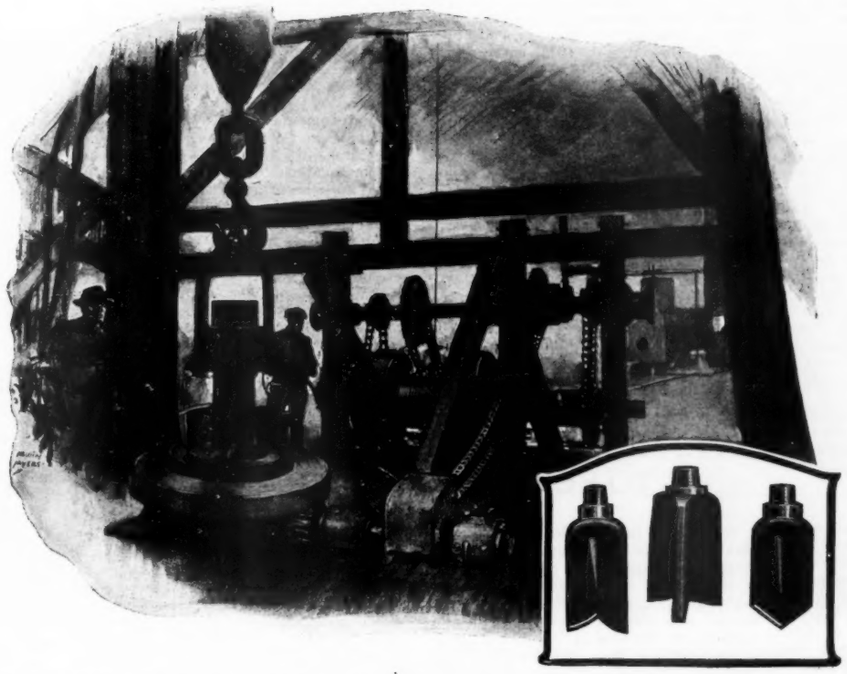
Seneca County

In the Tiffin Field, in Eden Township, Seneca County, the Sun Oil Co. drilled a deep test on the southwest corner of the J. C. Laise farm, in the northwest quarter of Section 26, but failed to strike the usual crevice or any oil. Top of the Trenton was found at 1,763 feet and drilled into that well known formation for a depth of 665 feet, or a total depth of the well to 2,401 feet.

In Henry Township, Wood County, the Trail Oil Co.'s No. 4 John Cahill farm, Section 24, pumped 6 bbls. at 1,469 feet. In Liberty Township, southwest of Bowling Green, the Paragon Refining Co. got a dose of salt water at No. 21 on the Eli Stockwell farm, Section 2, at a depth of 1,393 feet. In Lake Township, south of Toledo, Lants, Gregg & Schulte's No. 5, on the southeast corner of the Henry Schulte farm, Section 35, pumped 25 bbls.

In Bath Township, Allen County, C. A. Peavey and others' No. 10 on the

(Continued on Page 100)



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Confer With Mexico on Oil Problem

Committee of Americans Will Reopen Discussion of Security in Developing New Territory and Removing Difficulties

By L. M. Fanning

Decision of American producers of oil in Mexico to renew conferences with Mexican officials on the various problems which have been in the forefront since the passage of the Carranza constitution of May 1, 1917, carries with it important possibilities in connection with a resuscitation of production in that country. At the present writing a committee representing American petroleum companies with interests in Mexico is being organized to visit the Mexican capital to discuss the various problems. The personnel of the committee will represent all the companies holding membership in the Association of Producers of Petroleum in Mexico, which include the Standard Oil Co. (New Jersey), Mexican Petroleum Co., Sinclair Consolidate Oil Corp. and Atlantic Refining Co. According to one of the representatives of the American oil interests, the conferences have been agreed to by the Mexican officials, and there is reason to believe that both of the parties interested are desirous that something of a practical nature be arrived at. The actual conferences will start in Mexico City probably in two or three weeks.

Development Problems

The committee will take up all questions of a general or specific nature having to do with production, refining and exportation of oil in Mexico, including taxation. Special attention will be given, however, to working out a practical plan for the development of new producing territory, and removing the difficulties that have retarded the growth of the industry in Mexico for several years. These difficulties are not only those of taxation but of legislative nature. There has been practically no work done in Mexico of an exploratory character since the Carranza constitution. The peak of production was reached in 1922 when the southern fields reached their zenith, and the rapid falling off in these fields has been offset only by drilling on old, practically proven lands, in the northern fields; that is, lands privately owned and acquired prior to May 1, 1917. It is recognized that if Mexico wants to retain its prominent place in oil production, much exploration and exploitation in outside lands must be undertaken.

No Security Now

The constitution, which give the ownership of the subsoil to the State, has resulted in it being necessary on the part of the developer to deal with two owners, the private owner of the surface land and the State which claims title of the subsoil. Foreign companies operating in Mexico have successfully combated the Government's claim to ownership of the subsoil in lands which they acquired prior to the constitution, but they have found it impossible to operate according to the new system of enforced dealings with two owners. The difficulty of arriving at a procedure which would be practical is complicated by uncertainties as to the return on the investment. In other words, it has been found impossible to put new capital into attempted operation of private lands where the Government claims ownership of the subsoil. American oil companies with interests in Mexico would probably enter actively into the development of such lands, if they could feel reasonably secured in their operations.

Up to May 1, 1917, petroleum development in Mexico was on the same basis as it is in this country. Article 27 of the Carranza constitution, however, declared all petroleum in Mexico to be inherently the property of the State. Petroleum operation is not regulated by law but through various decrees, some issued by Carranza and some by Obregon. Retroactive features attempted to be put in effect by Carranza have subsequently been eliminated so that property acquired before May 1, 1917, carries with it subsoil rights.

A petroleum regulatory act passed the Chamber of Deputies in the last session of Congress but was not passed by the Senate. This proposed law was not satisfactory to foreign oil interests. Under its provisions operating companies would have had to pay a minimum royalty of 5 per cent to the owner of the surface land in addition to a royalty to the Government as owner of the subsoil. The terms were considered prohibitive and hazardous to investment.

May Repeat Offer

It is believed American companies are ready to repeat their offer to develop new oil territory in Mexico under proper guarantees. Conferences were held in 1922 in Mexico City and in New York. Since that time there has been an increasingly serious change in Mexico's production situation, and as Mexico is largely dependent on oil for its revenue, it is possible officials will be ready to do something definite to encourage the expansion of operations. Furthermore, foreign companies have increased their activities in South America and unless something of a definite character develops in Mexico they will be more disposed to concentrate their operations in other countries.

The first conference in 1922 was held in Mexico City in April, when a committee comprising W. C. Teagle, president, Standard Oil Co. (New Jersey); A. L. Beaty, president, The Texas Co.; E. L. Doheny, president Mexican Petroleum Co.; J. W. Van Dyke, president, Atlantic Refining Co., and H. F. Sinclair, president, Sinclair Consolidated Oil Corp., conferred with President Obregon and then Minister of Finance de la Huerta. At that time the principal issue at stake was taxation. The Mexican Government had levied a so-called production tax, in addition to the export tax, which was declared by oil companies to be prohibitive. The companies executed a general shutdown of shipments from Mexico. As a result of the Mexico City conference the tax matter was satisfactorily adjusted, but no agreement was reached on the question of the companies acting to open up new oil territory.

Agreement on Taxes

Regarding production taxes it was agreed that the basis would be valuation of petroleum products by using actual selling prices as a criterion and providing for an increase in rate of taxation as the selling prices advanced. As to export taxes, the arrangement made by the Mexican Government with the oil committee in September, 1921, remained effective.

Recent reports of disagreement as to the production tax levied by the Government for the month of May which were to the effect that the companies were withholding payments, are based, it is learned, on a difference of opinion as to the Government's method of arriving at the May valuation figure. All the companies paid their taxes, it is understood, on the valuation based on actual selling price of bunker fuel oil at New York while the Government valuation was higher, and the dispute was apparently over payment of the difference. This is believed to be a minor matter which is now being straightened out and it is said that late Government tax circulars place the valuation in agreement with the companies' realized prices.

To Open New Territory

Secretary de la Huerta again met the oil committee in New York in June, 1922, during the time he was having conferences with the international committee of bankers of which Thomas W. Lamont was chairman, on the matter of Mexican debts. These oil conferences consisted of an endeavor on the part of the oil executives to have the Mexican Government adopt a plan which would give security to the companies in relation to land which they were willing to develop as well as to give the Government its share of the benefits. One of the officials stated that the companies represented at the conferences intended to act as a unit in exploratory work, provided guarantees could be obtained.

When the conferences were concluded in July, 1922, it was stated that while no definite agreement had been reached, memoranda had been prepared and exchanged embodying important general principles relative to future exploration and exploitation work in Mexico, and that Minister de la Huerta was taking them to Mexico to present them to President Obregon. The principles outlined in the memoranda, it was stated, were intended to apply not only to the operations of the companies participating in the conferences but to all other companies operating in Mexico which might elect to enter into similar arrangements. No agreement, however, resulted, and it is understood that the old question of subsoil rights proved a stumbling block.

One proposal reported at the time of the New York conferences was that the companies and the Government operate jointly, the Government to assure the subsoil rights and the oil ment to supply the money, and the Mexican Government to participate to the extent of 30 per cent in net returns. This proposal was reported as rejected by the oil companies as tantamount to conceding that subsoil rights belonged to the Government.

SAYS MEXICO NEEDS NEW OIL LAWS TO REVIVE PETROLEUM INDUSTRY

Revival of the petroleum industry of Mexico, which is slowly decreasing despite the opinion that the oil resources of the country have only been scratched, depends to a great extent on sound legislation and prompt regulation, in the opinion of Clarence A. de Lima, editor of Greater Mexico, published by the Mexican Chamber of Commerce of the United States, Inc. Mr. de Lima points out that American oil companies have hundreds of millions of dollars invested in Mexican oil fields today and are willing to invest more millions, provided existing conditions in Mexico and legislation affecting the oil companies are corrected.

In commenting on the wrangle between the Mexican Government and the oil companies regarding the interpretation of Article 27, of the Mexican Constitution of 1917, which appears to be the bone of contention, Mr. de Lima says:

Not Trying to Dictate

"American oil companies are not seeking to dictate what Mexico's oil laws shall be. As a result of an obnoxious campaign carried on for many years in the jingo press of both countries the opinion has been formed that the oil companies are seeking to force the hand of the Mexican Government and make it acquiesce in their views on the regulation of the industry. Nothing could be further from the truth. The interests of the Government and the oil companies are identical. Whereas it is true that the oil companies seek certain advantages, the same can be said of every other industry in the country. But from talks held with the writer, the view of the leading oil companies are operating in Mexico can be summarized as follows:

"American oil companies in that country are desirous of cooperating to the fullest extent of the proper development of Mexico's oil resources. They have invested hundreds of millions of dollars in the industry and stand ready to invest further millions. They have, by investing this capital and creating the industry, provided lucrative work for thousands of poor laborers, increased the nation's revenues beyond all expectations, built and maintained numerous schools and hospitals, constructed miles of good roads and founded prosperous communities where once jungle and waste land existed. They have sought on numerous occasions to aid the Federal Government by advancing taxes and were instrumental in reestablishing Mexico's foreign credit.

"They feel that existing conditions do not warrant the acquiring of new properties and reserves unless these lands are given guarantees as granted formerly. With no law regulating the industry it is difficult for them to know what stand will be taken by future administrations.

Future of Industry at Stake

"From the foregoing it may be inferred that the future of the oil industry in Mexico depends to a great extent on prompt regulation of it by sound legislation. Once such laws are enacted there exists no plausible reason why Mexico's oil production should not increase year by year until the real peak is reached. With the unrestricted development of this great industry will surely come a new era of national prosperity for Mexico and with it economic independence."

In connection with Article 27 of the Mexican Constitution of 1917, which gives the Mexican nation "direct dominion" over the subsoil, Mr. de Lima says:

"Nationalization of the subsoil is not a new idea and has been carried out successfully in other countries. In Mexico it is still in the stage of experimentation and various difficulties have been encountered to make its effects generally beneficial. The idea nevertheless gripped the conscience of the Mexican public at large because of its idealistic aims and purposes.

"But in its application to the oil industry unforeseen obstacles were encountered. On the part of the oil companies, confiscation is allged and the claim made that property rights have been repealed and labor troubles aggravated. Parleys between representatives of the oil industry and the authorities, test cases brougth before the Supreme Court, and through the discussions of he international pre-recognition conferences held in Mexico City last year, much has been accomplished toward clearing up the situation and bringing about a better understanding.

"Still, although the Supreme Court decided Article 27 could not be applied retroactively on lands acquired previous to 1917, and though, according to the agreement reached by the International Commission, that all properties held by the companies upon which some act had

(Continued on Page 94)

"Lead Wool for Plugging Oil Wells"

Plugging Off Bottom Water with EAGLE LEAD WOOL

A PLUG of Eagle Lead Wool exactly fits the sides of the well. Under pressure the loose spongy wool is forced into the irregularities of the wall of the hole, and consolidates to form a solid plug of pure lead. Such a plug is permanent, as it does not admit of cracks or crevices for water to work through, nor is it corroded by the alkaline waters of the oil bearing horizons.

During the past year Eagle Lead Wool has successfully plugged off bottom water in wells, after all attempts at plugging with other materials had failed. In every instance in which it has been used Eagle Lead Wool has either completely stopped the flow of water or materially reduced it.

A special cartridge type container has been developed by the Eagle-Picher Lead Company for placing Lead Wool at the bottom of the oil well. By this method, only the exact amount needed is used, and additional plugs can always be added, if the water is not completely stopped.

Eagle Lead Wool is carried in stock by the oil-field supply companies. If you are unable to secure it, write the Eagle-Picher Lead Company, giving us the name of your dealer, and you will be supplied immediately.

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Send for our booklet, "Plugging Oil Wells with Lead Wool," giving complete information for its use, or write us concerning Oil Wells in which you are troubled by bottom water.

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Carranza and some by Obregon. Re- to aid the Federal Government by advanc- (Continued on Page 94) rights belonged to the Government.

MEN KNOWN IN OILDOM

Paul N. Boggs

The election of Paul N. Boggs, former president of the Union Tool Company. and now chairman of the board of that company, as assistant general manager of the Union Oil Company, is a recent change of importance for this company as well as for this popular Californian. Mr. Boggs became identified with the oil industry in 1902 through the W. T. McFie Supply Company. Mr. McFie was a pioneer California independent oil well supply man, having started in that business with the Union Oil Company at Santa Paula, later organizing his own concern. After Mr. McFie retired from the oil well supply business, Mr. Boggs became one of the five original members that organized the J. F. Lucey Company, becoming vice president and general manager of that concern.

He joined the Union Tool Company as vice president and sales manager in 1919 and a year later became president and general manager. With the purchase of the Union Tool Company by the National Supply Company during the same year, Mr. Boggs continued with the National for the purpose of co-ordinating the two organizations. This having been accomplished, Mr. Boggs returned to the Union organization.

PERSONAL PARAGRAPHS

H. H. Patton, president of the Cassoday Oil Company of Wichita, Kans., made a business trip to Denver recently.

* * *

Charles W. Flint, president of the Tulsa Rig & Reel Manufacturing Company, has gone to Colorado for his vacation.

* * *

D. F. Connolly, head of the D. F. Connolly Agency, Inc., Tulsa, left recently for a short business trip to Chicago.

* * *

W. K. Warren, president of the Warren Petroleum Company, Tulsa, spent an enjoyable vacation at Eureka Springs, Ark.

* * *

W. W. Splane of Oil City, Pa., oil and gas producer in the Eastern and Mid-Continent Fields, was in Pittsburgh last week.

* * *

Clifford L. Lyall, vice president of the State Street Trust Company of Boston, Mass., and a stockholder in several of the Midwest Refining Company subsidiaries, is visiting the Wyoming oil fields on a tour of inspection and incidentally is enjoying the excellent fishing.

C. H. Wright, vice president of the Sunray Oil Company, of Oklahoma City, spent several days in Tulsa on business recently.

* * *

E. W. Burns, field superintendent for the Independent Oil & Gas Company, Okmulgee, Okla., is taking a vacation in the East.

* * *

Frank Schreck, of the Tulsa offices of the Pulaski Oil Company, left recently for a vacation of three years, to be spent in California.

* * *

Charles Drake, chief engineer for the South Penn Oil Company, in the fields of West Virginia, was a recent visitor in Pittsburgh, Pa.

* * *

Frank D. Brimm, advertising manager for the Marland Refining Company, Ponca City, Okla., was in Chicago last week on business.

* * *

H. L. Woolfenden has joined the Scott Valve Manufacturing Company of Detroit, Mich., and will have charge of sales promotion.

* * *

R. P. Williams, sales manager in the southern territory for the Galena-Signal Oil Company, has gone to Florida for a short vacation.

* * *

G. L. Noble, vice president of The Texas Company, at Houston, Tex., is on a week's vacation with his family on his ranch near Uvalde, Tex.

* * *

O. J. Bryan, formerly stationed in Ponca City, Okla., for Black, Sivalls & Bryson, has been transferred to the Tulsa offices of this concern.

* * *

A. W. Shattuck, scout for The Texas Company in the Okmulgee district was a visitor to the Tulsa offices of the company during the past week.

* * *

Bart Jones of the land department of the Standard Oil Company, of Louisiana, has returned to Shreveport after an enjoyable vacation spent in Houston and Beaumont, Tex.

* * *

W. A. Tipton, district sales manager for the Durabla Manufacturing Company, Dallas, Texas, stopped in Tulsa recently on his visit to the various Mid-Continent Fields.

* * *

Daniel J. Danker, banker and oil operator of Boston, Mass., is in Wyoming looking over the oil fields, particularly the Big Horn Basin operations, where he has holdings.

* * *

William K. Hughes, vice president of the Continental Supply Company, St. Louis, Mo., spent several days last week in Tulsa calling on his friends and business acquaintances.

* * *

Paul W. Swisher, retired agent of the Eureka Pipe Line Company, now enjoying rural life near Mannington, W. Va., was greeting his former associates in Pittsburgh, Pa., last week.

* * *

C. P. Dodge, secretary of The Texas Company, at Houston, Tex., and manager of sales for the southern territory, was married recently to Mrs. Gordon A. Van Riper, also of Houston, in Chicago.

* * *

C. B. Sage of Toledo, Ohio, is back at his home after several weeks in the East. Mr. Sage is a former Bradford, Pa., operator and now operating in the Rudolph Field of Wood County, Ohio.

* * *

F. B. Havenstrite, formerly purchasing agent for the Bell Oil & Gas Company, has been appointed purchaser for the Western Supply Company, taking the place of J. H. Waters, who recently resigned.

* * *

A. J. Parkin, with the Standard Oil Company of Indiana, an officer of the community service department, is at Casper, Wyo., looking into conditions there regarding the Standard's interest in that city.

* * *

C. C. Cartwright, vice president of the Texas National Supply Company, with headquarters at Fort Worth, Tex., spent a few days at the Toledo headquarters of the company. Mr. Cartwright in the early days of the Trenton Rock Field, was located in the Indiana Field, and with the opening of the Illinois Field in 1906 went to that field with headquarters at Robinson.

Robert and David Kirk, Fred Moran and Charles Flemion of Findlay, Ohio, have taken over the Eagle Township, Hancock County, Kentucky, holdings of the United Oil Company, involving 50 wells and leases.

* * *

Roy C. Lindley, who has been assistant purchasing agent for the Twin State Oil Company for several years, resigned recently to take a place with the Happy Belting Company, Tulsa, vacated recently by R. T. Todd.

* * *

T. A. Morgan, of Wichita Falls, Tex., in charge of the White Eagle Oil & Refining Company's operations in the Wichita Falls district, was in conference with the company's executives at the Fort Smith office, last week.

* * *

Frank Purnell, president of the Continental Supply Company, and vice president of the Youngstown Sheet & Tube Company, Youngstown, Ohio, has returned home after visiting friends in the Tulsa territory for a few days.

* * *

Jacob France, president, and L. A. Keidel, vice president of Cosden & Company, have returned to New York City and Baltimore, after an extended inspection of the company's Tulsa properties and the producing acreage in Oklahoma.

* * *

J. S. Sidwell, vice president in charge of Mid-Continent operations for the Transcontinental Oil Company, and George Coyle, general superintendent for the Prairie Pipe Line Company, have returned to their Tulsa offices from Craig, Colo.

* * *

W. L. Kistler, president, and R. E. Wertz, general manager of the Producers & Refiners Corporation, were visitors in Rawlins, Wyo., the past week, inspecting the work of the field forces at Rawlins and the refinery of the company at Parco.

* * *

Lee Scott, of Wichita, Kans., vice president of the White Eagle Oil & Refining Company, in charge of the land, pipe line and production departments, was in Fort Worth, Tex., recently conferring with G. W. Mosley, in charge of the company's Fort Worth office.

* * *

R. J. Lindsay, vice president and R. B. Lloyd, superintendent of the pipe line department for the Hope Engineering & Supply Company, Mount Vernon, Ohio, were in Tulsa recently, being accompanied on the field trips by D. W. McKay, manager of the Tulsa office.

* * *

C. W. Stone, vice president and general manager of the Gilmore Oil Company, of Los Angeles, Cal., was in Tulsa during the past week assembling a crew and drilling materials and equipment for a deep test on Montrose Dome in Colorado, near the town of that name. The structure has been passed upon by several geologists.

* * *

Ira G. Wetherill, vice president of the National Supply Company, with headquarters at Independence, Kans., has been visiting at Casper, Wyo. He was formerly district manager in the Rocky Mountain region for this company. Mr. Wetherill is looking over the Rocky Mountain oil fields while in Casper and examining into conditions in the region.

* * *

H. G. James, who was recently reported to have resigned from his position with the Derby Oil Company Wichita, Kans., states that the report is not correct. He has been granted an extended leave of absence and will aid the Missouri and Kansas oil men in a fight against a tax on gasoline in their States. Mr. James has just returned to the Mid-Continent from a brief trip to California.

* * *

The Chicago Pneumatic Tool Company announces the transfer of Ross Watson, formerly district manager of the Cleveland branch office to the district managership of the Minneapolis branch to succeed D. M. Wesbrook, now general manager of the Canadian Pneumatic Company. Other recent changes include the transfer of I. J. Westenhaver, from the Pittsburgh office to Cleveland as district manager of that branch and E. C. Stroup, compressor engineer in the Boston territory, has been moved to the Pittsburgh district.

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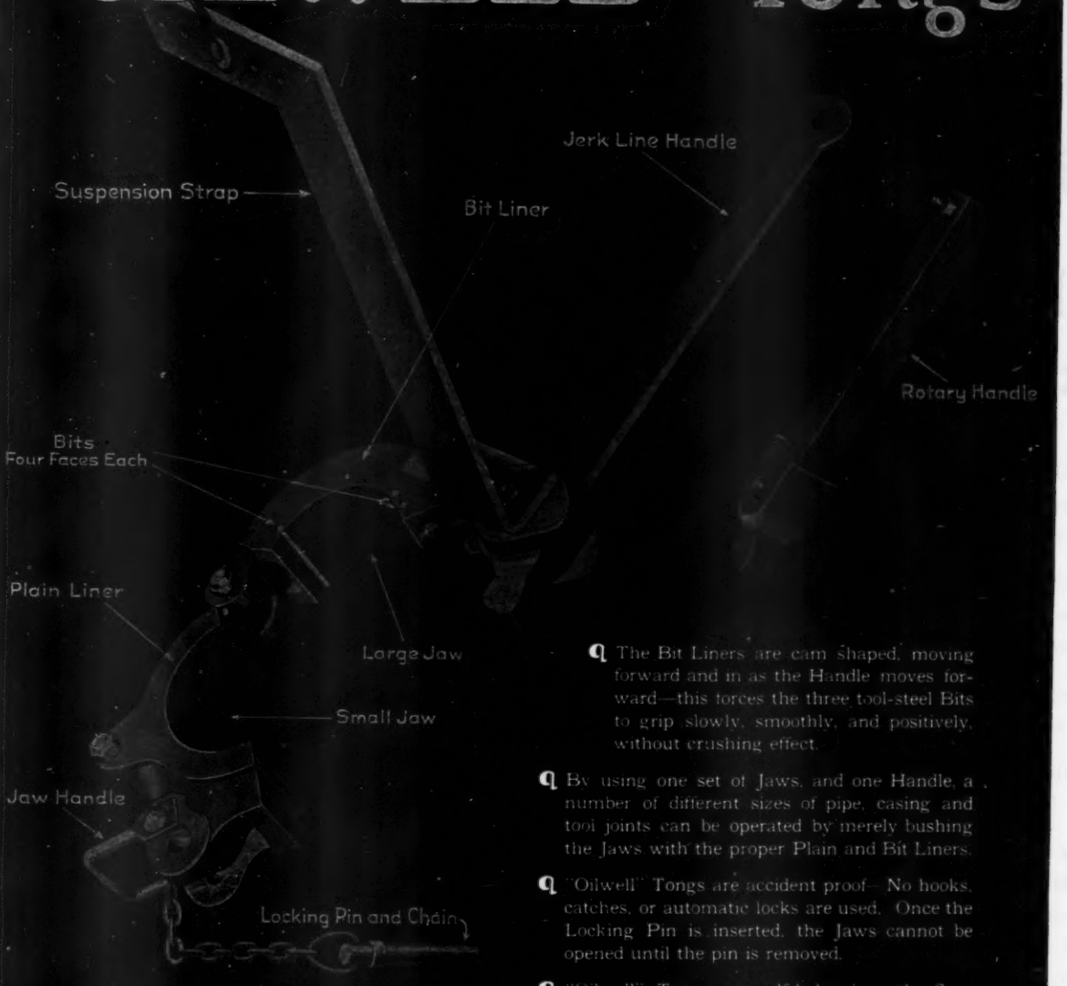
"OILWELL" Tongs



¶ The Bit Liners are cam shaped, moving forward and in as the Handle moves forward—this forces the three tool-steel Bits to grip slowly, smoothly, and positively, without crushing effect.

¶ By using one set of Jaws, and one Handle, a number of different sizes of pipe, casing and tool joints can be operated by merely bushing the Jaws with the proper Plain and Bit Liners.

¶ "Oilwell" Tongs are accident proof—No hooks, catches, or automatic locks are used. Once the Locking Pin is inserted, the Jaws cannot be opened until the pin is removed.

¶ "Oilwell" Tongs are self-balancing—the Suspension Strap is so mounted that the Tongs balance perfectly whether jaws are open or closed. Tongs are made of electric steel throughout.

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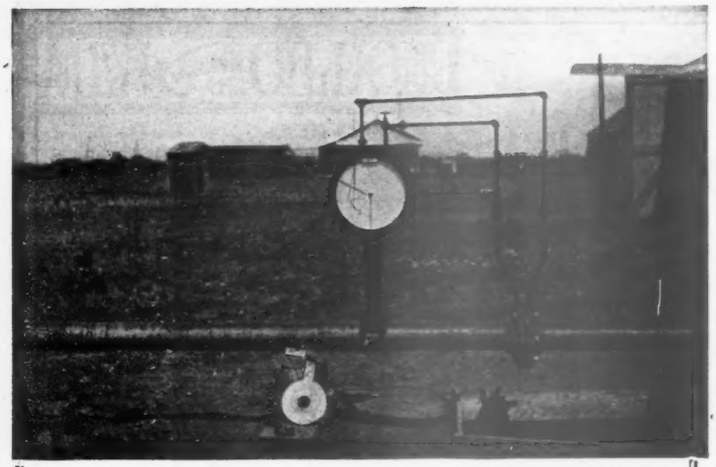

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WHEN you get a meter that's accurate without being delicate, that does not require the constant attention of an expert to keep it accurate—

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Then you've found the ideal meter for oil and gas field service.

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THE COMPASS OF INDUSTRY

6578

RISE OF CALIFORNIA PETROLEUM INDUSTRY

(Continued from Page 21)

avoid a huge waste of oil, necessitated by storing in ordinary holes in the ground, diked up with dirt. A staggering reservoir and tank building program was carried out by all the large oil companies in California and during the year 1923 a total expenditure of over $27,000,000 was made, for concrete and steel oil storage tanks. A storage capacity of approximately 63,000,000 barrels was constructed during the year. Concrete storage reservoirs were built to contain over 35,000,000 barrels of oil and the capacity per tank ranged from 750,000 to over 3,000,000 barrels. A huge concrete reservoir of over 3,100,000 bbls. oil capacity was built at El Segundo. During the year, steel tankage was built to store approximately 27,750,000 bbls. of crude oil. The approximate cost for concrete storage was 25 cents per bbl. and for steel tankage approximately 50 cents per bbl. of oil storage.

Before the year 1923, the standard size steel crude oil storage tank for a long time was 55,000 bbls. which was raised to 80,000-bbl. tanks but in 1923 a far-seeing company built six steel tanks each having a capacity of 178,000 bbls. of crude oil. The engineering skill involved in designing these 178,000-bbl. steel tanks was of the highest and it is of interest to indicate their dimensions (of these steel tanks.) The diameter of the tanks built was 176 feet 9 inches and the height 42 feet. The steel of the first rung of the tank was one inch thick and they were double-butt strap sextuple riveted. The steel required in weight for each tank was 720 tons.

On April 30, 1924, there was in storage in California 97,335,651 bbls. of oil and made up as follows:

Heavy crude oil including residuum (heavier than 20 degrees Be.), 47,159,246 bbls.

Refining (above 20 degrees Be.), 36,394,858 bbls.

Tops, 13,781,547 bbls.

Properties of California Crude

The chemical and physical properties of California crude oil vary most profoundly. They contain sulphur, oxygen and nitrogen compounds of the mercaptan, acid, phenol, and quinoline and cresol type, which make refining into marketable products a difficult matter. The crude oils vary from almost solid to high fluidity having Baume gravities from 6.8 to 54, i.e., from almost all asphalt to gasoline. The percentage of gasoline present in the various crude oils ranges from zero to practically 100. The kerosene, gas oil, lubricanting oil, asphalt and fuel oil vary quite widely on a percentage basis, as a function of the source of crude oil. The wax content of average California crude oil is a variable quantity. During the year 1923, wax recovered represented only 0.0004 per cent of the total crude oil refined during the year. However, very large quantities of wax were left in fuel residuum.

The sulphur content of the crude oils range from one-tenth to one per cent to over 4. The oxygen and nitrogen content also vary quite widely. The water content of the crude oils of California range from practically 0 to 60 per cent in the emulsified form.

Crude Run to Stills

The following table records the amount of crude oil run in the stills of the refineries of California during the year 1923 with the quantities and percentages of the gasoline, kerosene, gas and fuel oil, lubricants, wax, coke, asphalt, finished and unfinished products produced during distillation and treatment to marketable products.

		Pct.
Crude run to still	6,347,310,649 Gals.	
Gaso. produced	1,283,200,165 Gals.	20.2
Kero. produced	316,140,319 Gals.	2.4
Gas and Fuel Oil	4,099,279,051 Gals.	64.6
Lubricants	96,845,612 Gals.	1.5
Wax	179,057 Lbs.	0.0004
Coke	(NONE)	
Asphalt	415,262 Tons	1.6
Other Fin. Prod.	59,372,344 Gals.	0.9
Net Unfin. Prod.	400,472,749 Gals.	6.3
Losses	2,260,548 Bbls.	1.5

The technical skill in refining California crude oil into marketable products has been signal in achievement. The development of the Trumble and Bell pipe stills in the distillation of crude oil has made its greatest advances in California. Fractionating columns of highest efficiency have been developed in California and are used commercially to separate fractions of oil so that there is a minimum overlapping of boiling points in the distillation products. This is particularly true in the light oil fractions such as gasoline and kerosene. To effect a minimum of decomposition during distillation for the preservation of the lubricating oils, high vacuum distillation has been developed to a marked degree.

The chemical and physical treatment of the fractions of oil from the crude petroleum have undergone profound modification during the last few years. Since the discovery of the absorptive and refining properties of California clays such as Death Valley, the chemical treatment by means of dilute, concentrated and fuming sulphuric acid, sodium plumbite and caustic soda has been modified or eliminated at least in the treatment of some of the gasoline produced.

Tests of Lub Oils

The remarkable properties of California clays in refining such fractions as gasoline, has been one of the outstanding developments of the oil industry in California. Particularly is this true of some of the gasoline produced which requires no further treatment than simple agitation with California clay, and the gasoline produced is water white, odorless and sulphur-free according to the sodium plumbite test.

It is interesting to bring out the research conducted by some of the large companies of making tests on their oils from their individual wells, in order to determine the lubricating qualities of the oil, then segregating the crude oil production from the well which showed good yield and quality of lubricating oil stock, instead of running the production of all the wells to a common tank or pipe line to be refined en masse. This simple technical experiment has saved the California oil companies large sums of money and produces better lubricating oils.

The use of California clays has distinctly modified the refining of lubricating oil in that the amount of sulphuric acid and the consequent heavy losses have been curtailed, and in some cases the clay is used as a neutraliser of the acid after treatment which eliminates the need of caustic soda. The California clays act very efficiently and are far superior to Fullers earth as an absorbent for coloring matter, pitchy matter, and sulphur compounds in the oil.

During the year 1923, the percentage yield of lubricating oil derived from the crude oil operated upon in the stills was 1½ per cent of the total oil refined. The quantity produced during the year was 96,845,612 gallons of lubricating oil. There are now 88 topping plants and complete refineries in California, having a total refining capacity of about 550,000 bbls. per day. About 77 of these plants are now in actual operation, with daily throughput of 450,000 bbls.

Cracking California Oils

The commercial cracking of California oils into gasoline has been one of the most difficult problems in the industry to solve, due to the high coke forming property of the oils under heat and pressure treatment. There has been an immense amount of experimental work with expenditures of millions of dollars in an endeavor to commercially crack the heavy California oils such as crudes and residuum. The limitations of practically all cracking processes with one striking exception, lies in the necessity of using a low coke forming oil in the production of gasoline under heat and pressure conditions. Heretofore, charging stocks have been of the kerosene or light gas oils types for the production of gasoline by cracking. The Dubbs cracking process has had its foundation in California and has been

(Continued on Page 102)

Oil Country Iron Cocks
PROTECTION against leaks and theft is assured by the use of cocks of proper design and construction.
Both the plain and lock pattern iron cocks illustrated below find extensive application at the well, on pipe lines and around tanks. The lock cock is adapted for use with any standard type of lock.
Made from heavy materials according to Kelly and Jones Oil Country Standards, these cocks can be depended upon at all times.
Write for our Catalogue "S" listing and illustrating our complete line. Sent free upon request.
Fig. 491
Essex Lock Iron Cock—Extra Heavy Pattern
Kelly & Jones Products
Brass, Iron and Steel Valves, Fittings and Specialties of all kinds
Power Plant Piping
Pipe Bends, Coils and Welded Headers
Screwed, Shrunk, Welded and Van Stone Flanges
Fig. 490
Oil Country Pattern Iron Cock, Brass Washer Ex. Hvy. for 200 lbs. Working Pressure
THE KELLY & JONES CO.
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At one of the White Oil Corp. wells a packer and 120 ft. of tubing were lost in the hole. Then the head of a tubing spear wedged itself between packer and casing and broke off. For two months ordinary tools were tried without success. Then the Devil's Steel Hand arrived on the scene. In short order the well was clean.

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Soviets Oil Chief Visiting U. S. Talks Of Russian Output

NEW YORK, Aug. 9.—Reviewing the situation in the Russian oil industry to a representative of the New York Times, A. P. Serebrovsky, president of the Azerbaijan Oil Trust, which operates in the rich Baku Fields, said that Russia had been able to go ahead with oil exploitation work without the aid of foregn capital and could get along very well without such aid. Mr. Serebrovsky arrived here from Russia July 29 to study American producing and refining methods and to arrange the purchases of machinery and other equipment.

The Azerbaijan Oil Trust produces about 75 per cent of all Soviet Russia's petroleum output, operation of the Baku fields in the Province of Azerbaijan having been revived in 1920. This is in the Caucasus, where Sinclair obtained a rich territory in return, it was reported, for a $250,000,000 loan which he was to sponsor, but the concession lapsed. The probability of its revival is said to be more remote as the Russians proceed with their own program of development.

Near Pre-War Average

According to Mr. Serebrovsky, the output of oil by the State enterprise he heads will this year very nearly reach the pre-war average output of 50,000,000 bbls. Production in the Baku territory is now at the rate of about 48,000,000 bbls., he said, and new wells are being brought in constantly.

Inhabitants of the region are witnessing, he said, the greatest activity in the oil fields there in 30 years. A total of 54,000 workers are employed there, and most of these workers are housed at or near Baku, on the Caspian Sea, and being transported to and from the oil fields by an electric interurban railway The housing development is about 20 to 25 miles from the oil fields now being exploited.

In a part of the territory Sinclair would have obtained, if the agreement of last year had not lapsed, gushers have been brought in, one of which, among others, gave up 66,000 bbls. of crude oil in five days, Serebrovsky said. Another well has been producing 16,000 bbls. a day for the last three months, while the output of another gusher is 32,000 bbls. a day. Serebrovsky declared the fields being exploited by Soviet Russia were probably the richest in the world. Not more than 10 per cent of the whole Baku area had been exploited to date, he said. The proposed Baku concession to Sinclair, he added, meant only new or undeveloped fields.

Asked if it were still possible for Sinclair or other foreign interests to obtain concessions in this territory, Mr. Serebrovsky said it was, but that the need for making these concessions was rapidly disappearing and industrial restoration goes on.

Concerning Concessions

He said he did not know if the Standard Oil interests were seeking concessions in Russia, but that the Standard Oil and related interests were buyers of oil produced by the Soviet trust. Mr. Serebrovsky was careful to explain, during the interview, that the matter of concessions was in the hands of a special Soviet Government committee with which he had no connection.

As to the cabled report that the Sakhalin concession to Sinclair had become the subject of a great world oil drama in which the protagonists were the Governments of Japan and Russia and the Sinclair Corp., Mr. Serebrovsky said Japan was not seeking to control the Sakhalin Field and Russia had nothing to fear in this connection. Russia insists on the evacuation of the northern or Russian half of Sakhalin Island, and according to the cabled report, the Japanese have agreed to this in principle, while requesting priority of oil exploration rights in that territory. Mr. Serebrovsky said he did not believe Japan was making such a demand. This right of priority was ceded to Sinclair in 1922.

While Mr. Serebrovsky was in London, on his way to America, a contract was closed with "an important foreign concern" for the export of large quantities of fuel oil for the English consumers. Expansion of the export demands, now representing about 20 per cent, in actual shipments of the Baku output, is necessitating, he said, an increase in the Soviet oil fleet.

PETROLEUM IMPORTS BY CZECHOSLOVAKIA

Imports of mineral oils into Czechoslovakia in 1923 totaled 138,869 metric tons, against 78,934 metric tons in 1922, according to commerce reports. Most of the oil imported came from Poland, which sent 98,775 tons, an increase of more than 20,000 over 1922. Germany, Rumania and the United States shipped 19,872 metric tons, 8,284 tons and 6,307 tons respectively. Increase in imports was mainly in refined oils, which totaled 71,542 metric tons, against 2,411 tons in 1922.

Quantities of the various products imported in 1923 and 1922, in metric tons (about 7.2 bbls. to a metric ton) are given below:

	1923	1922
Refined petroleum	5,665	16,518
Refined gasoline	8,830	23,459
Other mineral oils, refined and semi-refined	71,542	2,411
Lubricating oils	10,174	12,868
Crude mineral oils	13,574	23,678
Tar, paraffin, etc.	30,084	.....
Total	138,869	78,934

T. E. SWIGART LEAVES U. S. BUREAU OF MINES

T. E. Swigart, superintendent of the United States Bureau of Mines at Bartlesville, Okla., has resigned his position and will leave August 20 for Los Angeles, where he has accepted a position with the Dutch-Shell Co., in the production division.

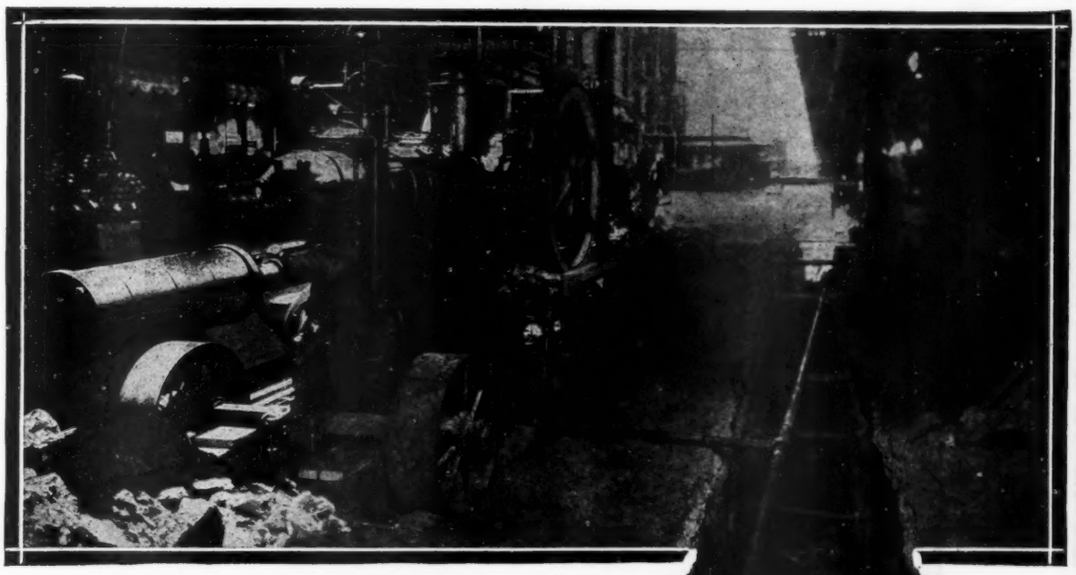
Mr. Swigart has been superintendent of the Bureau of Mines at Bartlesville for two years and under his direction four branch stations, one at Muskogee, Ardmore, Ponca City and Drumright have been opened. The number of employes in the bureau has been increased by more than half.

INDUSTRIAL VISIT TO MEXICO

E. M. Herr, president of the Westinghouse Electrical & Manufacturing Co., has been made chairman of the American Industrial Mission to Mexico in 1924, which will leave New York on September 8 to spend more than a week in Mexico as the official guests of the Government and of the City of Mexico. The trip will be made in response to an invitation from Mayor Raya of Mexico City. Other members of the committee include: C. P. Coleman, president, Worthington Pump & Machinery Corp.; C. S. Gawthrop, vice president, American Car & Foundry Export Co.; N. J. Gould, president, the Goulds Manufacturing Co.; M. A. Oudin, vice president, International General Electric Co.; and Edward Prizer, chairman, Vacuum Oil Co.

MISSOURI CITY GAS PROTEST

WEBB CITY, Mo., August 9.—The Webb City Gas Co. has filed a protest with the public service commission of Missouri against the application of city officials of Webb City for a repeal of the three-part gas rate there and reinstatement of the first rate of 78 cents per 1,000 feet. The city officials say that after a trial of eight months the three-part rate has been found unsatisfactory by gas users. The gas company says a majority of users are satisfied. Sentiment on the question is divided at Carthage, Mo., which is served by the gas company. The company is said to have proposed there that it make an annual service charge of $9, a 32 cents per foot hourly demand charge and 40 cents per 1,000 feet of gas actually consumed.



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OIL WELL PACKERS DATE BACK TO DRILLING OF THE OLD DRAKE WELL

By Ralph T. Baker

The story of oil well packers and their connection with the development of the oil industry is almost as interesting in itself as the story of the production of petroleum. In this small phase of a big industry, the early struggles and growth of the oil business can be pictured in miniature. The history of packers which were used soon after the completion of the Drake well, together with the developments which have given the producer his modern devices, is one which should interest everyone connected with the oil industry.

Old-time producers say the packer originally developed as a result of a desire to shut off water above the oil producing sands. The principle involved in most types embodies the vertical compression and lateral expansion of a resilient substance, between the casing or tubing and the wall of the hole, between two strings of casing, or between tubing and casing, the packer being run on the inside string and then expanded to fill the space around it for a limited vertical distance. In other words, a packer may be defined in substance as a device or contrivance primarily used for shutting off top or bottom water from an oil sand.

Old Types of Packers

An interesting insight into the old methods of production is given by Sam W. Redic, of the Oil Well Supply Co., Tulsa, who has followed the trend of production westward from Pennsylvania to the Mid-Continent area, and who knows the supply business from the days of the old seed packers.

"The first packers were run on tubing to shut off the top water and cavings from a lower producing sand," said Mr. Redic. "The first wells in Pennsylvania, following the Drake well days, were finished with a 5⅝-inch hole all the way. The drilling was good, and as the fields were extended, deeper sands were found. The problem of shutting off water from upper sands was presented to the producers who went after the oil in the lower sands. The seepage water from these shallow sands damaged many wells and spoiled some holes before any attempts were made to shut it off.

"The first seed bag packers were made out of kip leather, and were about 3 feet long. They were constructed with a closed bottom, so that they would slip over the tubing tightly. The top of the bag was left open and the inside of the bag was filled with flax seed. The bag or boot was slipped over the bottom joint of tubing and rested on an iron washer which was set on the bottom collar, so that the seed bag enclosed the tubing and filled the space between the tubing and the wall of the hole.

"No casing was used in these original Pennsylvania wells, with the exception of about 20 feet of wooden conductor at the top of the hole. The drilling was good and only one size of bit was employed. The bags were made by experienced shoemakers who turned the seam on the inside before setting the bag, so that there were no obstructions on the outside to rip the bag and let out the seed. The grain leather on the outside slipped nicely through the hole to the proper point where the water moistened the leather and swelled the grain which in turn expanded the sides of the packer, in time making a fair shutoff. Beans, rye, wheat or rice were used later by other operators. In some localities these bags were called 'seat bags' instead of seed bags, due to the seat, or washer, used to suspend the bag on the tubing.

"These bags were used a few years after the completion of the Drake well in 1859, several being used in 1865 on wells drilled on the farm of my father, Col. O. C. Redic, 1 mile above Foxburg, Pa., on the west side of the Allegheny River.

Leather Cup Packers

"Soon afterward the original Heinz leather cup packers were put into use," Mr. Redic continued. Those leather cups were manufactured out of sole leather and were just short, stiff seed bags in construction and principle, with a much larger iron washer. Seed was used in them also, although the bag extended up the tubing only a few inches. These devices also were effective in keeping out seepage water and cavings and from these rudimentary starts the modern packers of today have developed."

As drilling continued to locate deeper sands in Pennsylvania and as the producing area moved to other localities, the development of packers became more rapid. The necessity for shutting off water from the second sand, when a third sand was found productive, was the Hoadley type, according to Mr. Redic. These first rubber packers were used about 1870, he said. Closely following the Hoadley packer were the developments which resulted in the Armor cone type and then the Dresser packer, which followed about 1875-76.

Shortly afterward additional deep sands were found to be productive and a gas sand was found between two oil sands, contributing to the necessity for additional improvements in packers. In the meantime, casing was being used and two or three sizes of holes were being made in completing a well. According to Mr. Redic, the first slip packer was made by George Palm, a Butler, Pa., wagon maker. This packer was then manufactured by Benjamin Masseth, of the same place. This packer had as its purpose the improvement in shutting off the water from above and at the same time permitting the tubing to be pulled. The original seed packers and rubber packers had to be pulled with the tubing, which generally ruined the bags or packers, making it necessary to run new packers with the tubing.

Spring Disc Wall Packer

These events followed the development of production up to 1889, about the time that William Larkin started to make the spring disc wall packer, according to Mr. Redding. Other leaders in the packer business were E. H. (Patsy) Mack, of the Oil Well Supply Co., at Bradford, and L. E. Robinson, of Coffeyville, Kans. Mr. Mack dates his connection with packers from 1892, when he started the manufacture of the Oilwell line of packers at Bradford. He had been in the packer business before that time, however, Mr. Redic says. L. E. Robinson came to the front with the development of the shallow fields in eastern Kansas a few years later.

Each of the men mentioned in the foregoing paragraphs have contributed something particularly noteworthy to the industry in their untiring attention to the perfection of oil well packers. They have not been alone in this work, however, as a number of more recent patents can testify. Later development in packer improvement have kept pace with the general growth of the oil business, and many of the later manufacturers have added improvements which might be considered of unusual importance. A recital of these improved devices would take up more space than is available in the present article. The names of a few of the pioneers in the manufacture of packers have been mentioned for the sake of bringing out the chronological details in addition to showing the various basic steps utilized in the later models which were evolved.

Packers in Use Today

As in the case of a large proportion of the equipment used in producing oil, the primary purpose of a packer is to prolong the life of the oil well and obtain maximum oil output. For purposes of comparison, the life of the average oil well might be roughly divided into three divisions as follows: First, the flowing period; secondly, the period when agitation is necessary to raise the oil by natural means; and, finally, the pumping period. Oil men are united on the ex-

(Continued on Page 133)

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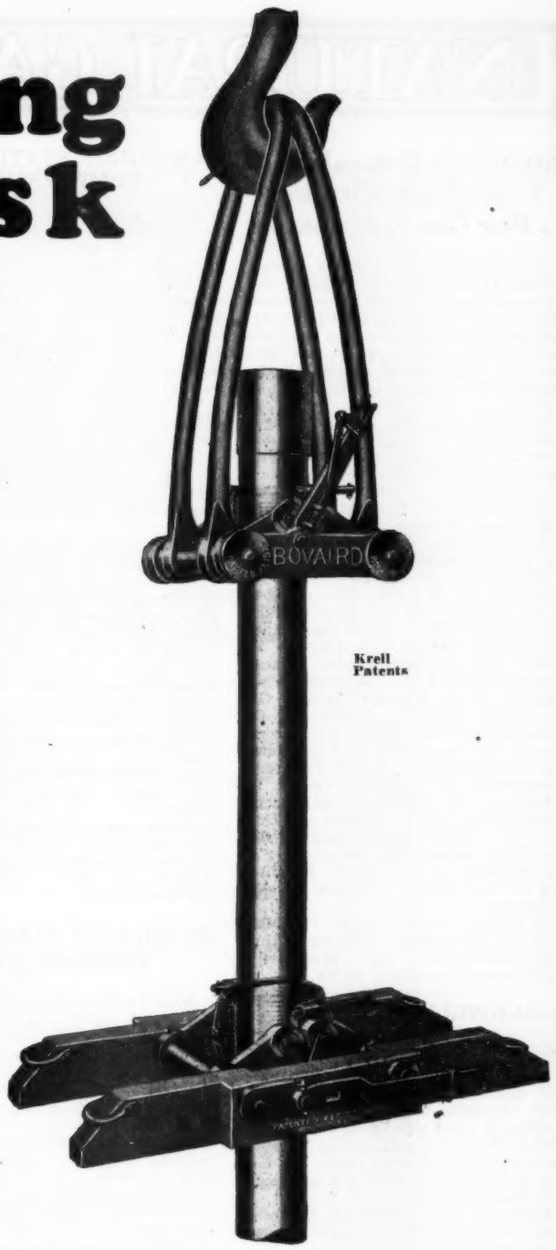

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Mr. Redle continued. Those leather

(Continued on Page 133)

NATURAL GAS DEVELOPMENTS

Pittsburgh Officials Tour West Virginia For Gas Information

PITTSBURGH, Pa., Aug. 9.—Mayor William Magee, other city officials and representatives of interested companies visited West Virginia gas fields to procure first-hand information on the cost and distribution of natural gas in connection with the city's protest against the increased rates proposed by the Equitable Gas Co.

The party included: Mayor Magee, Mayor George H. Lyle of McKeesport, Hary E. Speaker, secretary of Mayor Magee; K. C. Robinson, special assistant city auditor; Leo Hudson, city engineer; H. M. Jones, city solicitor of McKeesport; Daniel Winters, president of city council, and Councilmen Charles Anderson, John S. Herron, and W. Y. English; S. C. Gorfield, Pittsburgh Chamber of Commerce; J. B. Corrin, vice president of the Reserve Gas and Hope Natural Gas Co.; J. B. Tonkin, vice president of the Peoples Natural Gas Co.; S. W. Meals, vice president of the Carnegie Natural Gas Co.; H. L. Applegate, chief engineer of the Carnegie Natural Gas Co.; G. W. Radcliffe, treasurer of the Manufacturers Light & Heat Co.; George Artmer, Jr., vice president of the American Natural Gas Co.; A. W. Thompson, president of the Phliadelphia Co.; A. W. Robertson, vice president and general counsel of the Philadelphia Co.; A. Hurburt, vice president of the Equitable Gas Co.; M. R. Schaff, valuation engineer of the Philadelphia Co.; E. E. Hamilton and J. L. Burns, assistants to Mr. Thompson.

Stops were made at Brave, Pa., Mannington, Farmington, Underwood, Hundred, Moundsville, New Martinsville, Hasting and Clarksburg, W. Va.

BLACKWELL CITIZENS OPPOSE GAS PROJECT

BLACKWELL, Okla., Aug. 9.—Blackwell citizens, it is said, are not in the most favorable mood to the proposed building of a gas pipe line from their district to Wichita, Kans., and the piping of gas to southern Kansas cities. In fact, they have held a meeting and condemned the plan, it is said.

Operators in the pool, on the other hand, are demanding a market for their large gas supply, and an effort will be made either to carry through the plans of building the distributing line or getting one of the large gas companies interested in making purchases from the field.

Several new wells have begun operation in the Otstot Field. The Carter Oil Co. has put up a rig for No. 1, in the northeast of the northeast of 17-27-1w; Blackwell Oil & Gas Co. has decided to deepen No. 1 Geiger, in the southeast of the northeast of 9-27-1w, to the 3,400-foot sand, and Blackwell Oil & Gas has spudded No. 2 Grouch, in the southwest of the southwest of 10-27-1w, on a rig that has been up for over a year.

WILD NORPHLET GASSER

EL DORADO, Ark., Aug. 9.—For several days a gasser of 30,000,000 feet capacity daily has been running wild near Norphlet and all efforts to cut off the escaping gas have been futile. The well is the Graves No. 4 of Crawford & Sebastin in Section 3-16-15. A few hours after being completed the well sanded with such terrific force as to throw 32 joints of the drill stem and part of the liner out of the hole in the air. J. D. Roberts, a member of the drilling crew, was struck by a joint of the pipe, suffering three broken ribs and internal injuries.

CAMBRIDGE STATION COMPRESSING UNITS

Differing materially from other power installations, the selection of mechanical equipment for use in the transmission of natural gas from the well to the ultimate consumer generally follows certain set practices. It is not subject in any way to local conditions, such as usually govern the building of a water, electric or other type of power plant, the prime requisite being to provide a rugged unit, capable of giving 24-hour service.

To fulfill this requirement, the Empire Natural Gas Co., a Cities Service Co. subsidiary, in the building of its Cambridge gas compressing station, a plant recently completed at Cambridge, Kans., selected a standard type of 4-cycle, horizontal, single tandem, double acting gas engine.

Cambridge compressing station is one of 13 located at vantage points on the Empire Co.'s pipe line system. The station ranks fifth in size among the group. The gas handled at the station is obtained from four different sources. These are the Elk County, Kans., gas field; gas field of Kay County, Oklahoma, and Sumner County, Kans.; Western Osage County, Oklahoma, area and through a main line connection extending to Caney, Kans. When operating on gas received from Caney, the Cambridge plant acts as a booster station, relaying gas originally handled through a plant situated at Caney.

Among larger Kansas towns receiving their gas supply through this branch of the Empire system are Arkansas City, Winfield, El Dorado, Wichita, Newton and Hutchinson.

400 MILLION FEET CROMWELL GAS GOES

With a volume approximating 400,000,000 feet of gas blowing into the air night and day oil men were wondering how the production of the Cromwell Pool will be affected. There are four or five wells in the field which have penetrated the gas zone into the oil pay and while a part of the oil production is being saved, the gas is escaping. The deeper drilling has included many more wells whose gas is going to waste.

Already some oil men say the effect of this waste of gas has been felt in some parts of the field through a decreasing pressure which has cut down oil production of some wells.

Of the wells whose gas production is blowing into the air, two are producing 60,000,000 feet and 70,000,000 feet respectively, while two or three others are producing from 30,000,000 to 50,000,000 feet each. Oil production mounting from 1,000 to 1,500 bbls. a day is being saved from many of these wells, although much oil is wasted because of the tremendous pressure of gas.

GASSER NORTHEAST OF TULSA

A 1,000,000-foot gasser was brought in 6 miles northeast of Tulsa by Andrew V. Erwin, R. H. Pierce and National Drilling Co. in No. 1 Josie Halsell, in the southwest of the northeast of 3-20-12. It is producing from the Burgess sand topped at 1,130 feet and drilled 1 foot in. It is being shut in as a gasser. It was originally intended to make a Wilcox test of it.

GAS SAND IN COMANCHE

Sand which revealed a good core barrel showing of gas has been topped at 1,575 feet in the Becker and others' No. 1 Shelby, southwest of the southeast of 10-2s-7w, 2 miles northeast of production in the Comanche Field of Stephens County, Oklahoma, and casing has been cemented.

ROXANA'S DEEP TEST 40-MILLION GASSER

The Roxana Petroleum Co.'s No. 1, on the D. Culler allottment, located in the NW cor. NE NW, Section 12-8-8, drilled into sand at approximately 3,250 feet and, after but a few feet of the sand body had been tested the well was rated making 40,000,000 feet of gas, this estimate being the most conservative of the many reports concerning the big rush of gas.

This well for weeks has been the center of unusual attention and interest, and is one wildcat, that because of its position, which is about midway between the oil pool in 3, 4, and 9-9-9, and the Smith Pool, has been watched very closely. The country in which it is located is high and rolling, and has been touted to make an oil field, but for a radius of perhaps 3 miles in every direction, there has never before been a test drilled as deep as the Roxana found its gas.

Holdenville lies 7½ miles to the south of the new find and it is about 6 miles northeast of Wewoka. Practically all the acreage in its vicinity and for a considerable distance in every direction is owned by the larger companies who got into the country early or at the time the Roxana started its well. A new Hughes County Pool may develop around the new find.

Work was shut down at the well and it will not be drilled deeper until the bailer is moved back, and arrangements made to take off an expected oil flow.

SHALLOW GAS IN ALCORN POOL

Should operators care to shut in and save the shallow gas, the Alcorn Pool might prove one of the most prolific shallow gas areas in Oklahoma. Gas in commercial quantities has been encountered at 800 to 1,200 feet in every test being drilled in the pool. The Carter Oil Co. is reported mudding off 30,000,000 feet of gas at around 1,200 feet in No. 2 Turk in the northwest of the northwest of the northeast of 21-25-2w. Mud blown out of the hole with the gas is said to have covered part of the road 200 feet north of the location in the east and west highway along the section line. The "blowing gas," it is claimed, can be heard 2 miles distant from the location.

GAS RATE CONTROVERSY

WEBB CITY, Mo., Aug. 11. — The Webb City Gas Co. has filed a protest with the public service commission of Missouri against the application of city officials of Webb City for a repeal of the three-part gas rate there and reinstatement of the flat rate of 78 cents per 1,000 feet. The city officials say that after a trial of eight months the three-part rate has been unsatisfactory by gas users. The gas company says that a majority of users are satisfied.

Sentiment on the question is divided at Carthage, Mo., which is served by the gas company. The company is said to have proposed there that it make an annual service charge of $9, a 32-cents-per-foot hourly demand charge and 40 cents per 1,000 feet of gas actually consumed.

CANADIAN GAS RATES

A new two-year agreement between the city of Sarnia, Ont., and the Union Natural Gas Co., which becomes effective January 1, 1925, grants the company slightly increased rates. The new rates for the seven winter months will be 55 cents net per 1,000 feet for the first 10,000, and 70 cents per 1,000 for excess consumption, each month. The summer rate is a straight 80 cents per 1,000 feet. The old rates were 50 cents for winter and 70 cents for summer months.

CANADIAN HELIUM TEST BY CHEMICAL SOCIETY

Investigation of the Dominion's natural gas and helium resources, significant, it is said, in view of the proposed airship service from Great Britain to India and Australia, is going on in Canada, according to a report to the American Chemical Society.

Samples of gases from new wells have been collected and analyzed. This survey follows similar activity in the United States, which is thought by Federal investigators to possess a practical monopoly of the world's helium supply.

Ontario and Alberta are the only provinces in Canada in which natural gas occurs in commercial quantities, says the Chemical Society's Canadian report. Several gases in Ontario have a helium content of about 0.3 per cent, especially those from Brant and Haldimand Counties, but the supplies are from small wells in declining fields.

In Alberta the Bow Island Field is also showing signs of exhaustion. It was calculated in 1916 that about 12,000,000 feet of helium a year could be extracted from the gas supplied to Calgary alone, but it is probable that this estimate was too high, and with the present annual output of gas the helium available would undoubtedly be much less.

It is also pointed out that Calgary is no longer a suitable location for an extraction plant, as the gas now supplied to the city is a mixture of gases from the Turner Valley and the Bow Island Fields; the helium content of gas from the former is very low.

One new source already discovered is the field at Foremost, 40 miles south of Bow Island. The first well drilled in this area has an open flow of 15,000,0000 feet of gas per day; the helium content of this gas is 0.2 per cent. Gas from the fields in central Alberta at Viking and Wainwright contains only about 0.06 per cent, and the gas from Medicine Hat and Many Islands is equally low in its helium content.

It is estimated that about 15,000,000 feet of helium can be extracted annually from the natural gas wells in southern Alberta. The cost would be proportionally greater than in the United States, where gas of 0.94 per cent helium content is treated.

WAURIKA TO VOTE ON GAS

WAURIKA, Okla., Aug. 9.—C. S. Storms, mayor, has issued a call for an election to be held on September 9, to submit the proposition of granting a natural gas franchise to W. W. Ely of Fort Worth, who proposes obtaining a supply of gas from wells near Bluff City on Red River in the southern part of Jefferson County, and piping it to Waurika, Ryan and Terral. Business men of the other towns have indicated franchises will be granted. The matter of rates would be left to the corporation commission. Two wells are producing gas at Bluff City, each with a capacity of over 30,000,000 feet daily, one belonging to the Humble Oil & Refining Co. and the other to the Oklahoma Southern Oil Co.

NEW GAS SUPPLY FOR TONKAWA

A 6-inch pipe line connecting Tonkawa with the Blackwell Oil & Gas Co.'s lines in the Blackwell district is being laid. The purpose of this line is to supply the city of Tonkawa with an ample supply of good quality gas for domestic uses, according to O. F. Mayfield, manager of the franchise for the city. It is not lack of quantity of the gas from the Tonkawa area, but poor quality, that caused the company to make this change, Mayfield states.

Titusville

'ACME' ROTARY

THE Titusville Acme Steel Rotary has been proved by years of satisfactory service in every important Rotary field of the world. Among its many advantages are the replaceable race plates of machined high carbon steel with which both Rotary table and base are fitted. Cones are of case hardened machinery steel, and run in an oil bath. Pinion shaft is large in diameter with renewable bronze bushed oil bearings.

This Rotary represents the final word in rugged strength, efficiency and durability.

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CONTINENTAL

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WHEN we asked "Plank" how his CLARKS were operating he wasn't a bit backward in telling us that his CLARK Compressors were not only living up to all our claims and guarantees but had performed 'way beyond all expectations.

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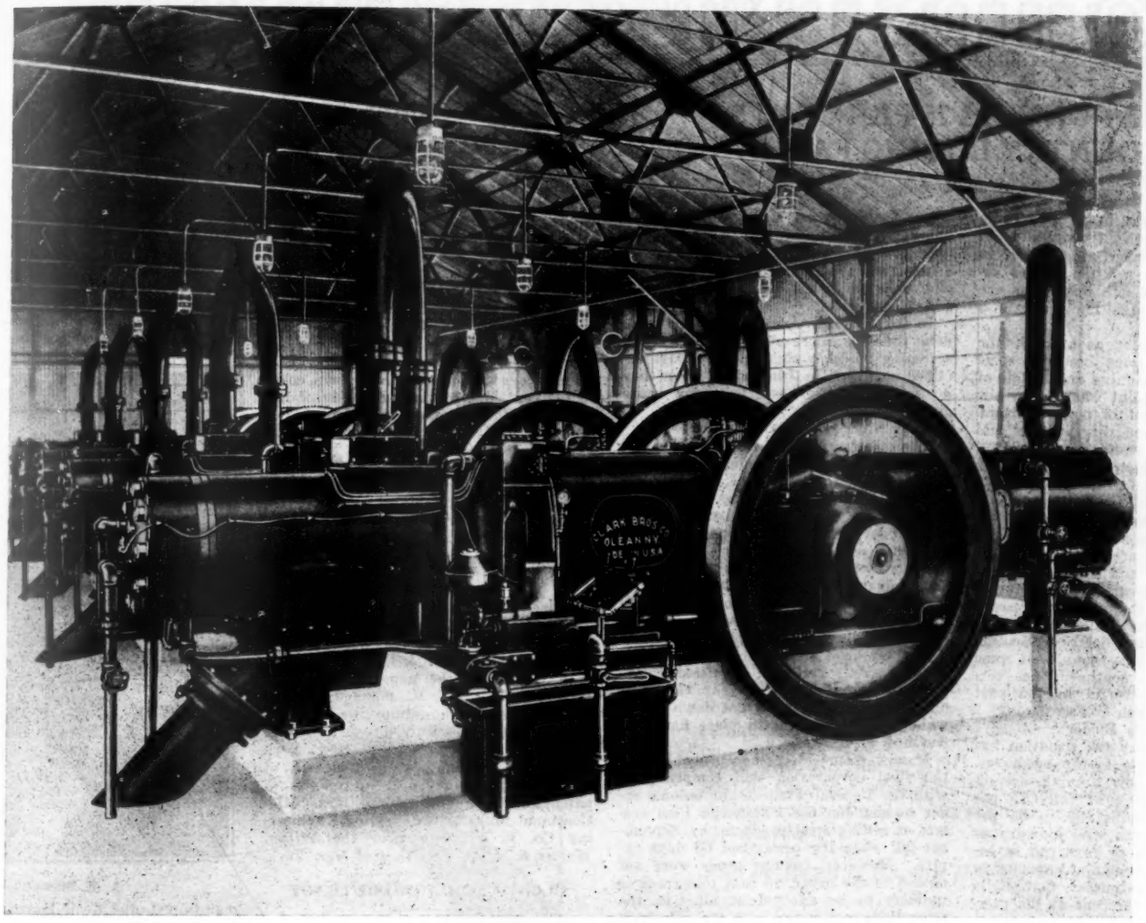

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Compressors

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Every Field

EQUIPMENT AND SUPPLIES

PIPE MILLS RUNNING 75 PER CENT; OIL COUNTRY BUYING FAIRLY GOOD

By B. E. V. Luty

PITTSBURGH, Pa., Aug. 11.—There has been a slight further improvement in the steel situation, taken as a whole, in that there has been a little further increase in buying and mill operations are on the upgrade, though the grade is a very slight one.

In the steel industry as a whole the low point in operations occurred some time between the beginning and middle of July, and the low point was not so low as had been expected in most quarters. The increase has been very gradual and it cannot be called especially substantial because buying is almost wholly for very prompt shipment and thus the mills do not accumulate backlogs, which would furnish them assurance of operation in the future. There is merely the assumption that as buyers are not replenishing or increasing stocks and as business sentiment has not been particularly favorable by any means, the buying represents actual requirements, which are more likely to increase than decrease, for the bad news as to business was all out some time ago. Business sentiment has certainly been more cheerful in the past fortnight than a month or two ago.

Pipe Mills Busier

In the pipe industry the situation has become very favorable to the producers. The pipe mills are now running, according to trade estimates, at fully 75 per cent of capacity, against 60 to 65 per cent in June, while the steel industry as a whole is estimated to have run at between 40 and 45 per cent of capacity in July and no one estimates that it is running at over 50 per cent at the present time.

There are two reasons for the greater activity at the pipe mills than in the steel industry as a whole. The first is that pipe mill capacity, relative to normal demand, is lighter than is the case in other finished steel products. The second is that the pipe mills have booked a very good tonnage of line pipe business since May 1, after six months in which there was no line pipe buying that amounted to any tonnage. Our last report estimated that the line pipe bookings were "in the neighborhood of 250,000 tons in three months." Now it looks as if this estimate was conservatively low, and that the bookings may have totaled 300,000 tons or more. It may be mentioned that the pipe mills are habitually very secretive about line pipe business, so that very close statements are impossible. A noteworthy point is that this line pipe business seems to have been very well distributed among the pipe mills. As the total production of all welded iron and steel tubular goods was 3,351,023 gross tons in 1923, the best year, and 3,002,725 gross tons in the next best year, 1920, buying of 250,000 or 300,000 tons of line pipe in a short time is an important matter.

Oil Country Goods

Buying of other oil country goods, casing, drive pipe, tubing, etc., has continued fairly good, from the pipe mill standpoint. It has been tapering off slightly for several months, but all told there has been no great decrease, and there has been little if any in the past week or two. As to merchant pipe, the mills have not appeared satisfied with their sales for several months, but there has probably been nearly as good a run of buying as could be expected.

The comfortable position of the pipe mills, comfortable at least compared with other finished steel branches, seems to preclude there being any decline in prices. Pipe mill prices are strictly maintained on the basis of the lists of April, 1923, except for the familiar shading in boiler tubes and quantity concessions on large orders for line pipe. It is said that line pipe prices are stiffer than they were two or three weeks ago, with orders for a few miles at a time going at full prices and some mills not being able to offer desired deliveries.

In shapes, plates, sheets and wire products there is more or less sagging or softening tendency right along. Bars declined until late in June, since when they do not seem to have lost any more ground.

Steel Market's Condition

The steel market, taken as a whole, is not advancing, and it cannot be said to be steady. At the same time it can hardly be said to be actually engaged in declining, for the slipping from one week to another is very slight. Advances in steel products ceased late in April, 1923, and at once some observers concluded that since advances had ceased declines would at once begin. In the following July hoops and bands did decline, and in August shading appeared in sheets. Since then there have been various declines and no advances. Yet with a softening tendency for more than a year the steel market on an average is not down much, while rails, pipe and tin plate have not declined at all.

It now seems altogether probable that the steel corporation will comply fully with the Federal Trade Commission's order to abandon the Pittsburgh Plus system of selling steel products, by September 20, when the prescribed 60 days expire. However, tubular goods were not named in the order, so that this trade is unlikely to be affected at all. In the other lines compliance with the order will probably make less change in the conduct of business than has been commonly supposed.

PULLING STRENGTHS OF CASING JOINTS

An important publication for producers is the recent Bulletin No. 3, issued by the Standard Seamless Tube Co., in which the pulling out strengths of casing joints are given, comparing the Standard seamless tubing with welded casing.

"Two factors of vital importance in the design of satisfactory oil well casing are its resistance to external collapsing pressure and its strength of joint in tension," the bulletin says. "The purpose of this bulletin is to discuss the latter point and to give tables of pulling strengths for the various sizes and weights of casing."

"Reliable data on the strength of casing strings under tension has not been available in the past, except in a few sizes and then very incomplete as to increase of strength with increase in weight. There has been no data whatsoever on the strength of welded casing compared with seamless casing."

The bulletin outlines the vast amount of experimental and practical work necessary for the compilation of the valuable tables which it includes.

BOOKLET ON BOILERS

The Union Iron Works has recently issued a very interesting booklet, describing in detail the design and construction of their new Union Universal Boiler of the self-contained return flue type. The booklet shows interior and exterior views as well as sections through the boiler and a table gives data on all dimensions of importance. The Universal Boiler is made in sizes from 25 to 150-H. P. and is particularly adapted to installations where only small floor space is available. Copies may be had by addressing the Union Iron Works, Erie, Pa.

TRUCK AIR SPRINGS FOR OIL FIELD WORK

H. A. Lantz, of the Cleveland Pneumatic Tool Co., Cleveland, Ohio, makers of the Gruss air springs for trucks, buses and preasure automobiles, has returned from an extensive trip through the oil fields of the Mid-Continent. He reports expressions of satisfaction in the use of these springs on oil field equipment. More than 13,000 installations have been made in California during the past 15 years. He asserts that one pair of Gruss air springs on the front end of a motor truck will cut maintenance costs 50 per cent, due to the absorption of the shocks in the springs. The Union Oil Co. now has 311 trucks equipped with Gruss air springs.

Harry R. Leland was recently made distributor for the Gruss air springs in the Tulsa district, maintaining an office and warehouse for the accommodation of the oil field trade.

ELECTRIC WELDING BULLETIN

"Electric Welding of Large Storage Tanks" is the title of a bulletin which has been issued by the Welding Engineering Co., of Bartlesville, Okla., consisting of a reprint of the paper delivered by Harold C. Price, E. M., manager of that concern, before the annual meeting of the American Institute of Mining and Metallurgical Engineers in New York City. The bulletin goes into details of arc welding, giving several examples of patch and complete jobs on large Mid-Continent tanks. The Welding Engineering Co. is distributor for the Wilson Welder & Metals Co., Inc., of New York.

CLOSES FOREIGN CONTRACT

M. F. Waters, Tulsa manager for the Smith Separator Co., returned recently from New York. While there, Mr. Waters closed a contract with the Perkins-McIntosh Co., of London, for the manufacture and sale of Smith separators in foreign countries. This company will manufacture the Smith separator in England. It operates both in England and Poland. The successful closing of this contract indicates the progress of Mid-Continent concerns in the world-wide work of producing oil and gas.

GUIBERSON EXTENDING OKLA.-KANSAS SERVICE

A. B. Stilwell, district manager of the Guiberson Corp., for Oklahoma and Kansas, with headquarters in Tulsa, has been with this concern since the entrance of the company in the Oklahoma-Kansas oil fields. The corporation recently moved its Tulsa offices from the Daniel Building to a new location at Elwood and First. James B. Duff is manager in charge of the office and warehouse in Tulsa, where a complete line of tools is

A. B. Stilwell

maintained, and Cecil Byars is assistant. The field sales force consists of S. P. Tschappat, F. M. Crowell and W. H. Lynch, who specialize on packers, and M. T. Kappele, who specializes on underreamers.

The new catalog issued by the Guiberson Corp. is one of the most artistic and attractive that has been issued during the year. It gives the details for all Guiberson products, including the swab, tubing catcher, tongs, underreamers, pistons, control head packers and oil savers and spiral plugs and packers.

HILD DIFFERENTIAL DRIVE OFFERS NEW ELECTRIC ROTARY METHOD

By Lester H. Keim

Engineer, Oil Well Supply Co. of California

During the past two years there has been designed, built, tested and proven in the fields, an electric drive for drilling oil and gas wells which is known as the Hild differential drive. This electrically-driven device is founded on a new conception of the requirements of successful rotary drilling, i. e., that control of the pressure on the drill bit is essential to quick and satisfactory advance of the hole and, also, the relieving of the pressure and retrieval of the bit are necessary to avoid the common hazards encountered in rotary drilling. Primarily, the drive automatically feeds, and varies the pressure of the drill bit according to the formations as they are encountered. It depends for its functioning on the combination of differential gearing and the inherent characteristics of two induction motors, and is another important step in the electrification of the oil fields. Its main interests to the oil producer is claimed to be that it will drill a well quicker, more economically, with less hazard, and with less wear and tear of the equipment. These results have been obtained on wells already drilled.

A large proportion of the difficulties in rotary drilling are caused by improper feed of the bit. If the feed of the bit could be made scientifically proportional to the resistance it encounters, if this feed could be regulated automatically and if the resistance encountered unexpectedly caused the bit to actually raise off the bottom, most of the difficulties and delays incidental to present-day rotary drilling would be prevented. The speed of drilling could be regulated to the safe limit for each formation as encountered, and the driller would be more free for supervision. The Hild differential drive was developed to secure these much-desired results.

This device, invented by Frederick W. Hild, of Los Angeles, Cal., was designed, manufactured, tested and perfected jointly by the Oil Well Supply Co., the Westinghouse Electric & Manufacturing Co. and the R. D. Nuttall Co. After considerable investigation the Chanslor-Canfield-Midway Oil Co. undertook to drill a well on its Torrance lease in California. This well was successfully completed and the same equipment, with very minor adjustments, is now com-

SPANG

Weldless Drilling Jars

Careful making of the alloy steel, together with intelligent working and proper heat treatment have built up a strength and durability in SPANG Weldless Drilling Jars that cannot be found in an ordinary set of welded jars.

The SPANG Weldless Jar will wear out—certainly, like everything else—but it is most difficult to break. And it wears out only after giving a thorough, convincing service—a service that will afford you the greatest satisfaction.

Once you use the SPANG Weldless Jar you will be satisfied with no other. You can purchase a set in the size you require at any supply dealer.

Sold by Leading Supply Dealers Everywhere

Points of Superiority in the Spang.

- Excellent joints.
- Greatly increased footage drilled.
- Elimination of Jar Fishing jobs.
- Reduction of drilling risk.
- Three to five times as much service as other jars.
- Increased profits.

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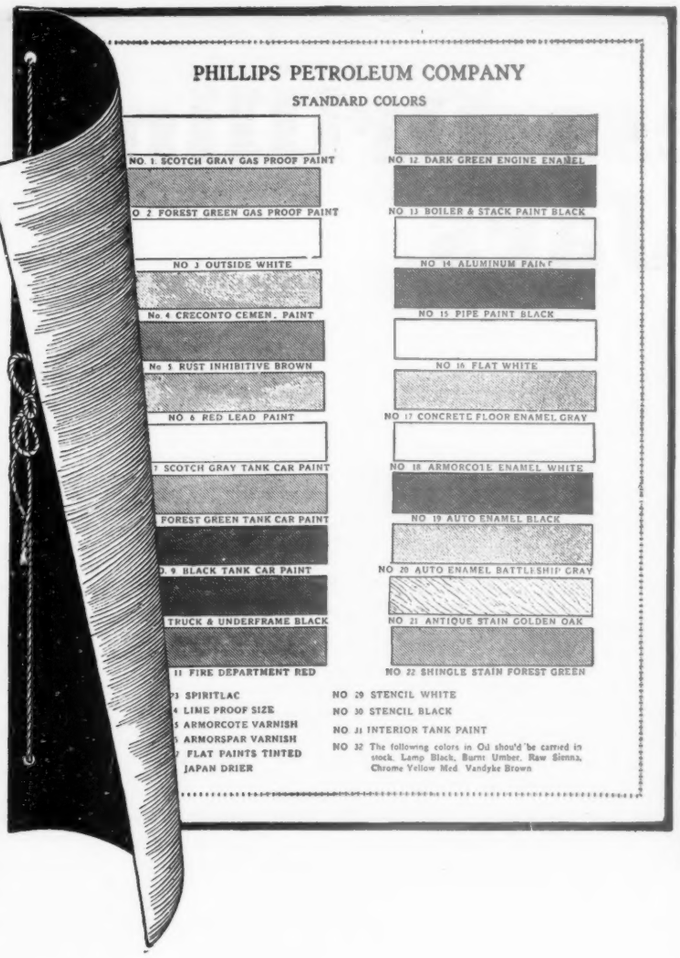
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NO 15 PIPE PAINT BLACK
NO 16 FLAT WHITE
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NO 18 ARMORCOTE ENAMEL WHITE
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NO 20 AUTO ENAMEL BATTLESHIP GRAY
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A Special Paint Service for Refiners

Many of the large Refiners, to whom we sell paint, have standardized their colors and paints for all the various equipment about their Refinery. They also have a standard practice for applying these paints. For these Refiners, we have prepared special color charts outlining standard painting practice for all their equipment.

These standard instructions for applying and ordering all paints result in simplification and economy in buying and put the paint department on a most efficient basis.

If you are interested in having us make up such a chart for your paint department, drop us a line in care of the Industrial Department.

Cook Paint & Varnish Company

KANSAS CITY, MO.

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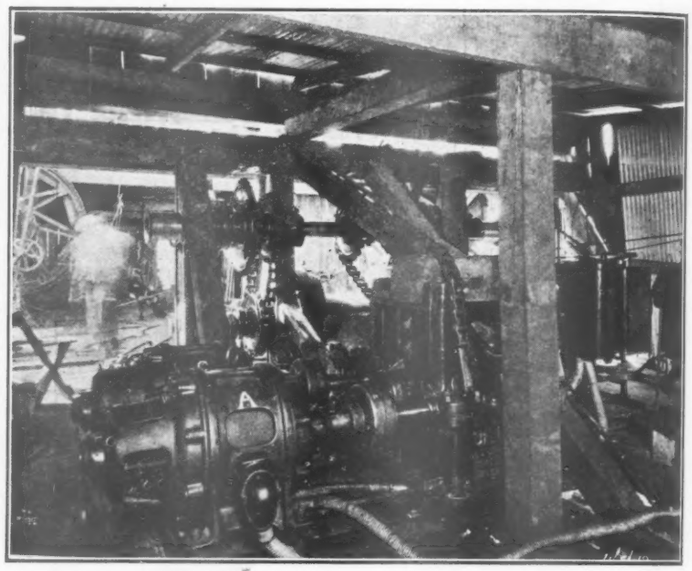
pleting a second well for the same company.

The Hild differential drive can be used with any standard rotary rig, the only change involved being that the drive replaces the drilling engine.

The control for the motors driving the differential gear is rope-operated from a small hand wheel on the draw works post. The indicating meters are located in the corner of the derrick opposite the driller. The motor-driven mud pumps are in their standard position and in the case of a combination rig, the standard 35-15 horse power pumping motor is connected to the band wheel through a reduction gear and chain in the usual location.

The Hild differential drive consists of a gear box containing a differential gear, to which is connected through flexible couplings two wound rotor induction motors, which are mounted on a common base. The drilling motor drives one-half of the differential and the rotary table direct through gears and chains; the regulating motor is connected to the other half of the differential. The hoist drum is connected to the central portion, or floating part of the differential gear unit.

In drilling, the motors are operated in opposite directions, the drilling motor being set for a higher speed, causing a downward feed of the bit. The greater the difference in speed between the two two motors, the greater the feed either downward or upward. If the load on the drill pipe increases, the additional load slows down the drilling motor, thus reducing the rate of feed. Should the load be sufficient to cause the drilling motor to run slower than the regulating motor, the feed reverses and the bit is raised off bottom. Thus, the device tends to maintain a constant predetermined pressure of the bit on bottom; yet it protects the bit and drill pipe from sudden or excessive strains by raising them up until free of the obstruction, at which point downward progress is again resumed. The rate of feed is adjustable, but the maximum feed is fixed for any particular adjustment. By a simple turn of the hand wheel, reversing the drilling motor, the equipment is used for hoisting with the combined power of both motors available.



View showing motor, draw works and gear unit of electrically-driven rotary outfit.

SUNDAY CLOSING ENDS AFTER DALLAS TRIAL

OKLAHOMA CITY, Okla., Aug. 9.—Sunday closing of gasoline filling stations has proved a failure in Dallas and officials of the Dallas County Independent Retail Gasoline Association have announced that hereafter stations will remain open as formerly. It was found that, in addition to a number of station owners refusing to comply with the closing request, public sentiment did not favor it by a majority. Three hnudred members of the association complied with the request.

"In all probability the new association organized to fight blue laws will disband," says A. G. Garrison, president of the Dallas Oil Men's Association. Mr. Garrison will ask members of the association to reunite with the retail gasoline association.

MARINE USE OF OIL

An indication of the growing use of oil instead of coal is given in the new edition of Lloyd's Register. In 1914, 3.1 per cent of the total gross tonnage of the world used oil either in motor ships or as fuel under boilers. In 1924 that percentage has grown to 29.88. Internal combustion engines propelled 0.45 per cent of the world's gross tonnage in 1914, that small percentage has not grown to the extent one would have expected. Today it is 3.09 per cent.

GAS APPLIANCE TESTING

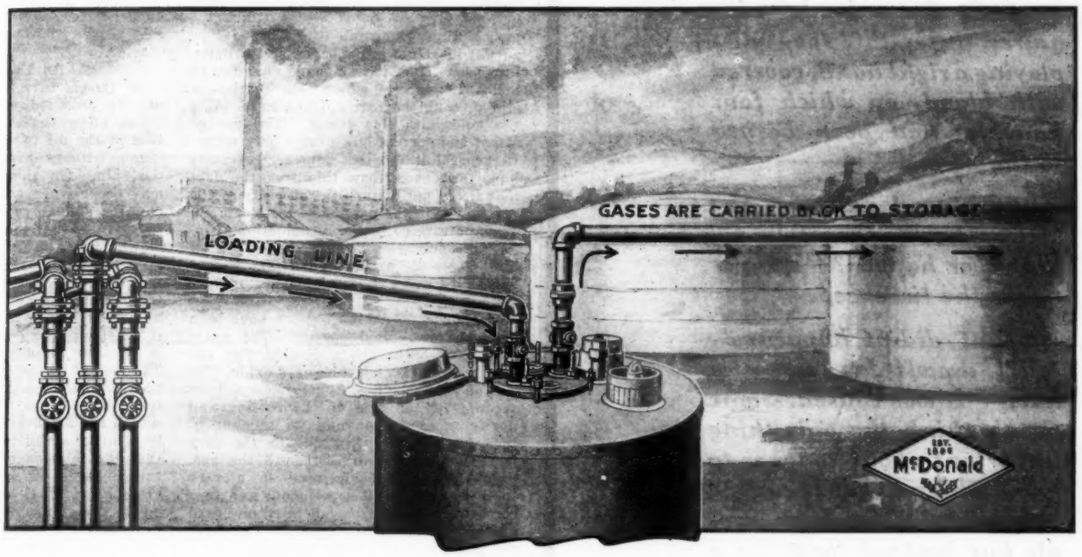
To protect users of gas from poorly made and dangerous appliances, the American Gas Association plans to establish in New York City a national testing laboratory. Associated in the project will be the United States Bureau of Mines, Bureau of Standards and Bureau of Public Health, manufactured and natural gas companies in the United States and Canada and gas appliance manufacturers. The purpose of the laboratory will be to increase the efficiency of gas utilization, raise performance and construction standards of gas appliances and eliminate so far as possible the use of inferior, dangerous and inadequate apparatus.

AIR COMPRESSOR BULLETIN

The Sullivan Machinery Co. of Chicago, has issued a recent bulletin, No. 77-G, giving the specifications on the Sullivan WA-6 air compressors. These compressors are the straight line type, with simple steam and air cylinders and wafer air valves.

INSTRUMENT REPRESENTATIVE

The Gibb Instrument Co., manufacturers of electric welding equipment, Bay City, Mich., announces the appointment of D. A. Clements to represent them in Missouri and southern Illinois with headquarters at St. Louis, Mo.



One Refiner Saved $125,000

In 16 Months, with GASTITE Loading— Another Stopped 10% Evaporation Loss

It is almost inconceivable that any refiner today should countenance so tremendous a "leak" in his business as is represented by non-gas-tight loading of gasoline.

Using our GASTITE Dome Cover one refinery, over 16 months, recovered an average of 173 gallons of gasoline per car, or a net saving of $125,000.

Permanent type, with cover in position.

Temporary type, made of aluminum.

Another refiner reported saving from 4 to 5 hundred gallons evaporation on each car loaded.

Another testifies to elimination of evaporation loss when loading casinghead, as high as 10% on hot days.

Our Universal Gastite Dome Cover should be used for loading casinghead, absorption, blended or straight run gasolines. It will pay its cost many times over in a few days of constant use. Ask for descriptive folder and prices.

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A. Y. McDONALD MFG. CO.

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Complete stocks also carried by:
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Sharpsville Boiler Works Co., Sharpsville, Pa.
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153

McDONALD

"Look't that mitt"

"Ain't she a dandy?" inquires "Interstate Joe," displaying a right hand, covered with blood, on which four knuckles had been barked to the bone.

"Why, good gracious, Mr. McCoy, how in the world did that ever happen?" sympathizes the timekeeper.

"That didn't happen a'-tall," drawls Joe, saroastic like,—"It was caused. Some people think the only thing important about tongs is to know where to get them the cheapest. When such people buy bastard tongs for a heavy job like this, the best thing us boys kin do is to keep our hands in our pockets.

"You see, Dick and me was on a pair of 8". We were on the last half turn—we came down on them tongs with all we had. But they didn't ketch.

"I heard Dick's teeth clatter as his knuckles buried themselves in the soft mud. But my knuckles didn't bury themselves a'tall, although they tried to,--in a big dornick.

"I'll tell the cock-eyed world them cheap, mongrel tongs 'barked up the wrong tree' this time. I'll carry water before I'll handle any other than

TRANSIT RED HEAD TONGS

National Transit Pump & Machine Co.
OIL CITY, PA.

District Offices:

New York Philadelphia Pittsburgh Cleveland Tulsa Houston Denver

ARE EXTINGUISHING OIL FIRES BY USING LIQUID CARBON DIOXIDE

By Walter H. Freygang, M. E.
Engineer, Walter Kidde & Co., Inc.

Fire aboard ship has always been a grim spectre to all seafaring men. The skipper of the old clipper ship extinguished fires by using water which his men had only to pump from the sea. The advent of steam brought the steam pump into use. Then it was found that fire in inclosed spaces, where the cargo is stored, could be extinguished by flooding the hold with live steam. The use of steam had certain advantages over water. In general it did less damage, but more important even than this was the fact that it did not disturb the stability of the vessel. With the passing of the steam engine and turbine by the introduction of internal combustion engines, the use of inert gases for extinguishing fires had to be studied and new developments brought forth.

For some years, inert gases have been employed in closed spaces. The gases used have been carbon dioxide, flue gas from the stack and sulphur dioxide. The use of flue gas has been abandoned on account of the size of the cooling and purifying apparatus and on account of the storage space lost due to the very large ducts used to distribute the gas. Sulphur gas is being used to a very limited extent as it is poisonous and very corrosive. It must be generated on board and on account of the corrosive nature of the gas it becomes almost necessary to renew the generator each time it is used. This, of course, is very expensive.

The use of carbon dioxide has been recognized for years as a fire extinguishing agent and many years back Congress enacted legislation permitting the use of carbon dioxide in place of steam on board ships. Carbon dioxide is also the gas generated by chemical reaction in the soda and acid extinguisher, and is the gas in the bubble of the foam extinguisher.

In the latter case one of the difficulties confronting the use of carbon dioxide was met; namely, the ability to keep this inert gas on the surface of burning substances but other difficulties limit its general application. The fire hazard on board of oil tankers propelled by internal combustion engines where there is an absence of steam was not solved by the use of chemical foam extinguishers so that other means had to be sought.

New Method of Release

Up to a few years ago, the use of pure carbon dioxide was limited by its tendency to freeze when released from the storage cylinders in which it is transported under pressure in its liquefied state. The property of freezing hindered the rapid release of gas by the accumulation of a solid carbon dioxide in the valve passages. Due to the fact that the boiling off of the liquid requires heat, most of which is taken from the liquid itself, one-third of the stored quantity is frozen to a solid and is not available until thawed out. Thawing operation is difficult, burdensome and lengthy.

The newer method of release, known as the Lux System was patented in the United States by a native of Sweden. This system entirely eliminates the uncertainty of discharge and permits the entire contents of the cylinders to be immediately available. The result is accomplished by not permitting the liquefied carbon to boil until it is discharged from the conveying pipe into the atmosphere. Immediately upon its discharge into the atmosphere the liquid is vaporized and a large percentage is projected as fine particles of solidified carbon dioxide.

To compare the results, a commercial cylinder of carbon dioxide when fully opened to the atmosphere will release two-thirds of its contents of 50 pounds in about eight minutes; the balance remaining in a solid state within the cylinder. The discbarge is irregular, depending upon the accumulation and thawing of solidified carbon dioxide in the valve passage. If a Lux cylinder is fully opened to the atmosphere, the entire contents of 50 pounds are discharged in 40 seconds.

The urgent need of fire protection on vessels carrying oil in bulk propelled by the prime movers are not using steam, and the lack of any system for meeting this hazard suggested the use of carbon dioxide.

As Used at Sea

In vessels carrying oil, the tanks are usually provided with expansion trunks which allow the expansion and contraction of the oil to alter its level in these trunks without disturbing the stability of the ship. On this type of carrier, fire may occur when the hatch cover is open or in case of an explosion it is sometimes so provided that the hatch cover would be blown off. The fire extinguishing device need, therefore, only be installed so as to extinguish any fire occurring in this trunk. It may also be desirable to have numerous trunks flooded at one time for if the commodity carried is gasoline, there is no time to operate particular valves. The weight of the equipment, initial cost and maintenance cost are also of prime importance. The foam extinguisher presented the disadvantages of great weight, high initial maintenance cost and the fact that the solution must be at a temperature between 60 degrees F. and 100 degrees F. at all times. This last requirement calls for a supply of considerable heat in winter weather.

The application of the Lux System to this problem was thought feasible on account of the fact that the gas could be brought on to the surface of the burning oil in large volume and at high velocity. The Lux system of piping liquid carbon dioxide would, for each cubic foot of liquid conveyed, deliver 450 cubic feet of gas; this being the approximate ratio of liquid to gas under the usual temperature and pressure conditions.

Gasoline fires do not normally require a very high concentration of carbon dioxide. It is also unnecessary to keep this concentration over the surface for any length of time, as the fire to rekindle requires the presence of a flame. It is necessary, however, to extinguish the fire fully, as the presence of the slightest flame will rekindle the vapor.

Arrangements were made with one of the carbonic manufacturers to conduct tests at their plant on the East River, Long Island City, N. Y. The preliminary experiments made use of a small tank measuring approximately 1 by 4 feet by 1 foot deep. All experiments were conducted out of doors in a very windy location on a bulkhead along the East River.

Results of Tests

It was found that projecting the gas through perforations drilled in a straight line along a pipe so that the jets of carbon dioxide were in one plane entrained air in quantity sufficient to fan the fire and increase its intensity rather than extinguish it.

Other tests were made by using two planes taken at random, and it was found that the fire in many instances could be extinguished. Our investigation then led to the adoption of nozzles of proper size, determining the right spacing and finding the most desirable angles between the planes of discharge.

A new experimental tank was built which was approximately 4 feet long, 1 foot wide and 4 feet deep; the gas being projected across the 4-foot dimension, and a complete study was made. The results obtained indicated that one principal plane of jets for extinguishing the fire was necessary and that sufficient gas had to be projected in another or second plane to supply the necessary CO_2 concentration in the air entrained by the nozzles in the first plane.

The second plane or projecting jets had to be inclined at an angle depending somewhat on the width of the trunk and the level of the oil between the nozzles. The results were so successful that a larger experimental tank was built, the upper section of which is a duplication of a typical ship's expansion trunk. This

Wertzberger Exclusive Features

Top Legs
10″x12″

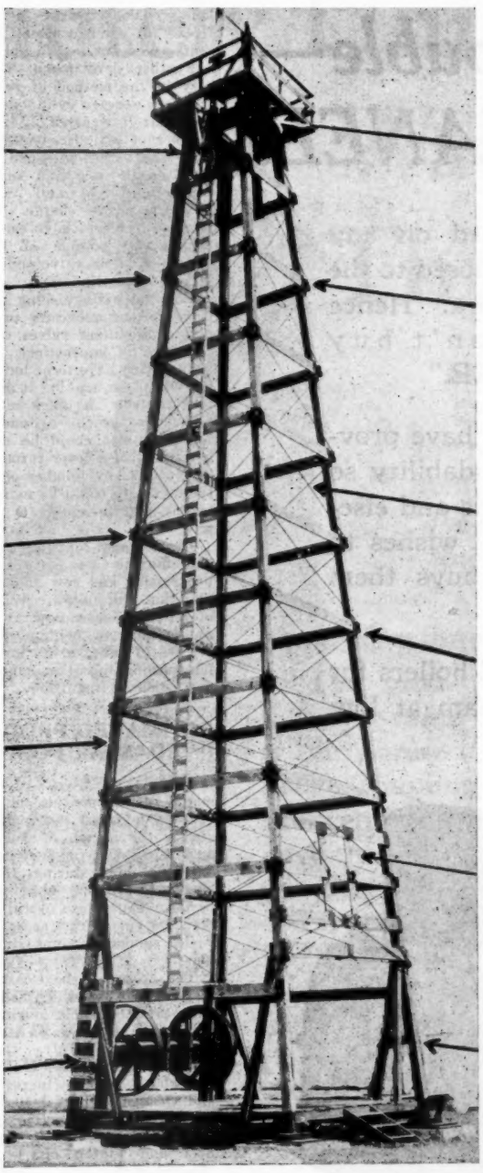
Rod thru Steel Casting at corner of each leg and girth

Steel Castings at corners

Legs
8″x8″x7′

Braces over Bull Wheel Posts to Legs

Starting Legs
8″x10″



Top bolted in with six 7/8″ bolts

Rod Protectors

Right and left thread iron rod braces

2″x12″ girths bolted to 8″x8″ leg

No Turnbuckles

Corner braced from derrick sill to derrick leg

Girths can be replaced without tearing down any part of the rig, thus saving time and expense. Easy to erect. Easy to tear down.

Wertzberger Derrick Co. Tulsa, Okla.

KEWANEE

Oil Country Boilers

Don't buy trouble—buy a KEWANEE

Oil field service is hard on any equipment. Often it is exposed to the elements—yet it must work. Hence the sensible slogan—"Don't buy trouble—buy a KEWANEE."

Kewanee Steel Boilers have proven their worth and dependability so thoroughly, in the oil fields and elsewhere, that the man who wishes to play safe specifies and buys them without question.

They are the preferred boilers for all jobs where steady steam at low cost is essential.

KEWANEE BOILER COMPANY

KEWANEE, ILLINOIS

Makers of Steel Boilers, Steel Tanks, Water Heating Garbage Burners, Tabasco Water Heaters

Sold by International Supply Co., Tulsa

District Sales Offices:

Fort Worth, Texas Ardmore, Okla. Denver, Colo.

Casper, Wyoming Great Falls, Mont.

Branches in All Prominent Oil Fields

tank is shown in the photographs and has a lower dimension of 9 by 9 feet with a height of 4 feet, while the expansion trunk is 5 by 5 feet with a depth of 2 feet.

The priniciple learned from tests on the earlier tanks were applied in this instance with results that were highly satisfactory. The experiment also showed that the depth of oil in the tank had practically no effect on the results.

Knife Edged Nozzle

Other development work on a hand extinguisher, brought forth a type of knife-edged nozzle which was found to give better results than a straight drilled hole. The straight perforations will freeze up after a short run, while the knife-edged nozzle will not freeze up.

Further development was also necessary in the method of releasing the gas from the storage cylinders in view of the fact that it was not desirable to have a number of cylinders manifolded together with the vapor pressure constantly exerted on the manifold and its numerous connections. A small leak would dissipate the entire charge. It was, therefore, desirable to have each cylinder containing 50 pounds of carbon dioxide closed off at its valve and be independent of adjacent cylinders.

For the extinguishing of oil fires the time element necessary to open these individual cylinder valves was so great as to make it impractical. The cylinders would often have to be located in an inaccessible place, making it desirable for distant control. A quick release cutter attached to each cylinder whereby a frangible disc could be cut out by the movement of a lever through an arc, was designed. Any number of cylinders with their cutters could be manifolded and released simultaneously by a distant control.

Development on further uses of carbon dioxide for extinguishing fires is progressing and new and more useful application will follow. With the methods of quick releases now available, endless applications are being suggested. The inertness of the gas, its non-injurious and nonfreezing qualities cannot be met by any other extinguisher.

ESTIMATED PRODUCTION COASTAL POOLS IN JULY

HOUSTON, Tex., Aug. 9.—The estimated gross production for the Gulf Coast Pools and the southwestern fields during the month of July is placed at 4,261,070 bbls., against an estimate of 3,845,220 bbls. during June, or an increase of 415,850 bbls. for the 31-day period. Both the Coastal and southwest divisions show increases. The Luling Field increased approximately 305,759 bbls.

The gross for the Coastal Plains Belt is placed at 2,524,171 bbls. as compared with 2,419,800 bbls. during June, representing an increase of 104,371 bbls. for the 31 days of July. Goose Creek increased 27,449 bbls.; Hull increased 17,980 bbls.; Humble increased 5,713 bbls. and Orange increased 10,547 bbls. These are the four most active spots in the region. West Columbia increased 22,617 bbls. and Vinton (La.) jumped 17,520 bbls. over the June output.

It only takes a few big wells to materially increase or decrease the output in the Coastal region, provided the wells hold up at anywhere near their original flow. These completions, together with the reviving of old wells, either by sidetracking and setting new strainers or cleaning the old hole, all contributed their quotas to the gross output of the pools. While there is great activity in any of the pools, there is a steady, everyday grinding away of the rotaries that manifest itself in the gross production column when the figures are compiled. Down here it is the "big fellows," referring to the major companies, that are doing 75 per cent of the development work, the "little fellows," or so-called independents, being merely incidents and a small minority.

The gross production in the southwestern fields during July is placed at 1,736,890 bbls., as compared with 1,425,420 bbls. during June. This is an increase of 311,479 bbls. for the 31 days of July, of which the Luling Field alone contributed 305,759 bbls. The drilling in of wells by the United North and South Oil Co. and the Grayburg Oil Co., which had been shut down on top of the lime, is responsible for the increase in that field. The Laredo districts increased 5,327 bbls. The Rockdale-Minerva shallow sand section of Milam County increased 6,923 bbls., due to the completions west of Rockdale. The Calliham Field in McMullen County fell off 7,024 bbls.

In the miscellaneous column, the two wells at High Island, partially offset the decline at Big Creek in Fort Bend County, the gross showing a decrease of 265 bbls. during July.

The following table gives the number of producing wells in each district, estimated daily average, gross production for the month and the increase or decrease compared with June:

Districts—	No. Wells	Dy. Av.	Gross Bbls.
Batson	353	1,580	48,980
Blue Ridge	17	859	26,629
Barber Hill	15	177	5,487
Dayton	10	95	2,945
Damon Mound	29	1,489	46,159
Edgerly (La.)	17	568	17,608
Goose Creek	252	11,579	358,949
Humble	306	7,273	225,463
Hull	235	21,040	652,240
Jennings (La.)	60	559	17,329
Markham	29	342	10,602
Orange	248	10,157	314,867
Pierce Junction	8	370	11,470
Spindletop	111	988	30,628
Saratoga	266	1,581	49,061
Sour Lake	405	4,458	138,198
Vinton	101	5,700	176,700
Welsh-Anse Bute	6	87	2,697
West Columbia	111	11,607	359,817
*Miscellaneous, Gulf Coast	27	882	28,342
Total July	2,596	81,391	2,524,171
Total for June	2,547	80,660	2,419,800
Difference	49	731	104,371

*Includes Big Creek, High Island, Big Hill, Hockley, Stratton Ridge, Nacogdoches, New Iberia (La.) and other spots.

Southwest Fields—			
Luling	256	48,089	1,490,759
Laredo	291	4,217	130,727
Somerset	230	2,466	76,446
Calliham	31	713	16,864
Rockdale-Minerva	185	544	22,103
Total July	993	56,029	1,736,899
Total June	876	47,514	1,425,420
Difference	117	8,515	311,479
Grand total July	3,589	137,420	4,261,070
Grand total June	3,425	128,174	3,845,220
Difference	164	9,246	415,850

Daily average per well Gulf Coast Pools, 32 bbls.

Daily average per well Luling Field, 198 bbls.

DRAINED GAS AREA IS USED FOR STORAGE

The most remarkable gas tanks in the world are being used near Buffalo, N. Y. Vast numbers of small connected underground cavities, all enclosed in a shell of impervious stone, like a gigantic sponge in a closed jar, holding 20 times as much as the largest man-made gas tank, formerly made up the Zoar natural gas field. The supply of natural gas has been drained from the field, and the empty sponge is now serving as a tank into which gas from other wells is pumped during the summer for use during the winter, when the demand is greater than the supply.

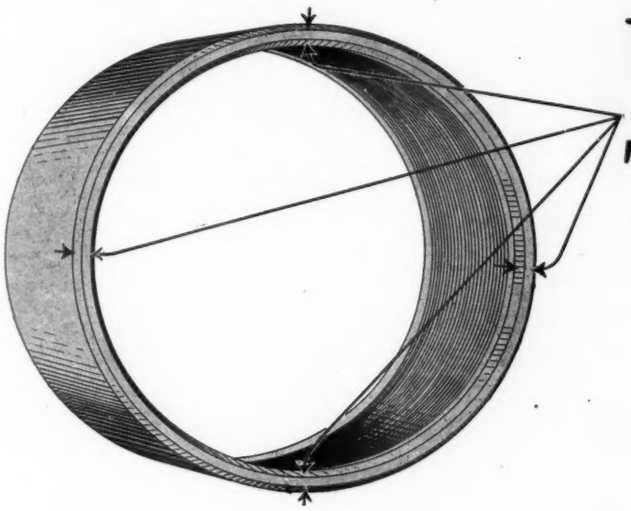
It has been estimated that this natural gas holder, which is near Springville, 25 miles south of Buffalo, will contain upwards of 400,000,000 feet of gas.

The Zoar Field was first developed in 1907. By 1918 the supplies of natural gas had decreased below the point of usefulness, and as an experiment, 45,000,000 feet of gas from other wells was pumped in. During the following winter the gas was pumped out, and meter measurements showed that none had been lost. Since then as much as 350,000,000 feet at one time have been stored in this unique tank.

BUNKER FUEL OIL GOES UP

Bunker fuel oil has been advanced 10 cents a barrel in the Canal Zone, to $2 a barrel. While the market for crude oil and refined products in general has been weak of late, due to record-breaking surplus stocks, the market for bunker fuel oil has held strong.

Absolutely Uniform Wall Thickness



SMITHSTEEL COUPLINGS
are made in all sizes from 20 inches down, for casing, tubing, line and drill pipe

Guaranteed uniformity of wall thickness insures correct clearances all around. There's no chance of SMITHSTEEL Couplings being off center and freezing in the hole.

The SMITHSTEEL process of manufacture also gives threads that have never before been surpassed in the oil fields. They are extremely true and are in correct alignment, so that strings of pipe are as straight as a die. In addition, the uniformity of wall thickness gives equal distribution of strength.

"The most perfect couplings that ever came into the oil fields" is the phrase applied to SMITHSTEEL Couplings in every production center in the country. You'll have the same opinion when you use them, and note the perfect construction and workmanship. Put them on the next "re-run" job, and you'll find they will save useless delays, loss of material and production.

Handled by Leading Oil-Well Supply Companies

STEEL COUPLING COMPANY

PITTSBURGH *Oliver Bldg.* | DALLAS *Thomas Bldg.* | TULSA *Mid-Continent Bldg.* | NEW YORK *30 Church St.*

SMITHSTEEL COUPLINGS THE PERFECT

ENGINEERS & CONTRACTORS
IN NATURAL GAS AND OIL

Hope Vertical Gas Engine-Compressors in a Hope-designed and Hope-built gasoline extraction plant

From Canada to Mexico

Hope-designed and Hope-built plants are operating wherever oil or gas is found—efficiently, economically, with profit to their owners.

And this uniform satisfaction is but the inevitable result of placing the design and construction of these plants with the one engineering organization in the industry supremely qualified—as to personnel, experience, resource and equipment to take complete responsibility for results.

No job too small to interest the Hope organization—no job too large or too distant for it to handle with economy and speed.

HOPE SERVICE

Engineering counsel, design, construction and contracting—in pipe lines for oil and gas, oil pumping stations, gas compressing and boosting plants, gasoline recovery systems, city and inter-city gas mains.

UNIT RESPONSIBILITY

ENGINEERS CONTRACTORS
HOPE Engineering & Supply COMPANY
DESIGNERS MANUFACTURERS
MT. VERNON, OHIO, U. S. A.

NORTH CENTRAL TEXAS

(Continued from Page 46)

Burkburnett-Hirschi

Completions: Couch and others' No. 4 Donohoe, dry at 1,335 feet; Kellogg and others' No. 1 Overby, dry at 2,000 feet.

Drilling. Cochran and others' No. 1 Weeth at 1,115 feet; Couch and others' No. 5 Donohoe pumped 38 bbls. in 18 hours and will complete at 1,335 feet; Darr and others' No. 1 Jenne, at 590 feet; Griffin and others' No. 6 Roller topped a sand showing oil and shut down for orders at 600 feet; Kuhn and others' No. 1 Meyers at 800 feet; the Magnolia Petroleum Co.'s No. 7 Treece at 200 feet; No. 6 Beach in an oil sand at 1,040 feet; the Texhoma Oil & Refining Co.'s No. 1-B Rexford in shale at 1,440 feet; White and others' No. 1 Donohoe pumping oil with no gauge from a sand at 1,325 feet; Wilcox and others' No. 1 Roberts at 415 feet.

Wichita County

Completions: Bowen and others' No. 1-B Fassett, dry at 915 feet; the Gulf Production Co.'s No. 61 Miller, dry at 2,000 feet; same company's No. 23-A Burnett, 60 bbls. at 1,590 feet; Howell and others' No. 1 Burnett, dry at 2,000 feet; Magnolia Petroleum Co.'s No. 36-A Waggoner, 25 bbls. at 2,115 feet; the United Central Oili Corp's No. 8 McCarty, 140 bbls. at 1,690 feet; Church and others' No. 2 Maer, 20 bbls. at 1,765 feet; the Electra Gulf Oil Co.'s No. 4 Murray, 200 bbls. at 1,660 feet; Kruger and others' No. 5 Allen, 65 bbls. at 1,625 feet; Moore and others' No. 3 Allen, dry at 1,765 feet; the Petroleum Production Co.'s No. 4-A Allen, dry at 1,750 feet; same company's No. 4 Maer, 115 bbls. at 1,770 feet; the Underwood Drilling Co.'s No. 4 Maer, 60 bbls. at 795 feet.

Drilling: Baldwin and others' No. 1 Fisher has a fishing job at 1,057 feet; Brewer and others' No. 1 Henson, rigging up cable tools; the Burnett Ranch Oil Co.'s No. 4 Burnett, drilling at 175 feet; No. 7 Burnett, drilling at 410 feet; the Camp Oil & Gas Co.'s No. 11-B Douglas has set and cemented 6⅝-inch casing at 1,937 feet; Carter and others' No. 2 Burnett, drilling at 1,015 feet; Culberson and others' No. 27 Jeff Waggoner, drilling at 800 feet; the Empire Gas & Fuel Co.'s No. 5 Pierce, coring at 1,795 feet; the Evangeline Petroleum Co.'s No. 1 Burnett, drilling in shale at 1,725 feet; the Gordon Oil Co.'s No. 1 Burnett, drilling in blue shale at 1,440 feet; Gulf Production Co.'s No. 24-A Burnett set and cemented 6⅝-inch casing on top of an oil sand at 1,570 feet; No. 9 Mrs. Collett pumped 15 bbls. of oil in 10 hours at 1,665 feet; Hammon and others No. 1 Burnett, drilling at 1,865 feet; Lee and others' No. 2 McCarty, reaming to set 6⅝-inch casing on top of a sand showing oil at 1,685 feet; the Magnolia Petroleum Co.'s No. 9 Douglas, drilling at 425 feet; No. 7 Jeff Waggoner, drilling at 835 feet; No. 37-A Jeff Waggoner, drilling at 1,500 feet; Panhandle Oil & Refining Co.'s No. 6 McCarty, shot with six quarts and cleaning out at 1,695 feet; Perkins and others' No. 8 Burnett, drilling at 1,635 feet; the Ryan Petroleum Co.'s No. 23 Nance, drilling at 200 feet; the Rio Bravo Oil Co.'s No. 7-A Waggoner, swabbing 40 bbls. a day and drilling at 1,590 feet; the United Central Oil Corp.'s No. 9 McCarty, rigging to pump and test an oil sand at 1,315 feet; No. 10 McCarty, drilling at 1,200 feet; the United Production Co.'s No. 5 Mrs. Jennings, drilling in shale at 1,725 feet; Campbell and others' No. 3 Chilson, shut down for orders on top of an oil sand at 1,380 feet; Gulf Production Co.'s No. 1 Rhodes, drilling at 1,815 feet; Gradner and others' No. 2 Peeler, drilling at 1,100 feet; Parker Brothers' No. 1 Love, drilling at 1,725 feet; Stump Oil & Gas Co.'s No. 1 Patterson, drilling in red beds at 100 feet.

Wilbarger County

Drilling: Castleberry and others' No. 1 Bowers, fishing for tools at 358 feet; Church and others' No. 1 Dill, showing 15,000,000 feet of gas and shut down at 1,255 feet; the Dill Farm Oil Co.'s No. 1 Dill, drilling in shale at 1,165 feet; Hart and others' No. 1 Smith, drilling at 900 feet; Magnolia Petroleum Co.'s No. 64 H. & T. C., drilling at 290 feet; Noble Oil Co.'s No. 1 Waggoner, drilling at 1,730 feet; Pigg and others' No. 1 Davis, drilling at 900 feet; the Tex-Wyoming Oil Co.'s No. 1 Zipperly, trying to side track tools at 2,155 feet; Thelma Wells' No. 1 Wharton, showing estimated 150 bbls. a day production and not completed at 2,000 feet.

Archer County

Completions: Bridwell and others' No. 3 Wilson, 140 bbls. at 1,610 feet; Cannon and others' No. 1 Jackson, dry at 1,652 feet; Dixon and others' No. 3 White, dry at 1,603 feet; Gherke and others' No. 1 Logan, dry at 1,705 feet; Litchfield and others' No. 4 Miller, dry at 1,370 feet; McCarty Oil Co.'s No. 4-B Wilson, dry at 300 feet; McLain and others' No. 1 Richardson, 35 bbls. at 1,358 feet; Norwood and others' No. 1 Orton, dry at 1,804 feet; Oil Investment Co.'s No. 1 Robertson, dry at 1,610 feet; Pace and others' No. 1 White, dry at 1,705 feet; Panhandle Refining Co.'s No. 3 Orton, 300 bbls. at 1,792 feet; Phillips and others' No. 1 Ford, dry at 2,002 feet; Riner and others' No. 9 Wilson, 85 bbls. at 1,623 feet; Shappell and others' No. 5 Kempner, dry at 1,779 feet; Shamrock Oil Co.'s No. 2 Richardson, 100 bbls. at 1,322 feet; Simms Oil Co.'s No. 2 Nichols, 10 bbls. at 1,421 feet; The Texas Co.'s No. 1 Orton, 30 bbls. at 1,794 feet.

Drilling: The Texas Co.'s No. 1 Andrews, rigging up a rotary; Allen and others' No. 1 White, shut down for a standard rig at 1,600 feet; the Archer Duke Oil Co.'s No. 1 Andrews, drilling in shale at 200 feet; the Archer Oil Corp.'s No. 2 Farmer, will set 6⅝-inch casing on top of an oil sand at 1,447 feet; Barber and others' No. 1 Anderson, drilling a water sand at 1,480 feet; Beninger and others' No. 1 Perkins, drilling at 970 feet; Boller and others' No. 1 Falls County School land, drilling at 300 feet; Camp Oil & Gas Co.'s No. 1 Falls County School land, drilling at 1,190 feet; No. 3-B Wilson, drilling at 595 feet; Carter and others' No. 1 Parrish, drilling in shale at 750 feet; Chenault and others' No. 9 Richardson, rigging to pump and test an oil sand at 1,360 feet; Choats and others' No. 1 Herron, drilling at 700 feet; Clark and others' No. 5 Miller, drilling at 1,120 feet; Daniels and others' No. 1 Rankins, drilling at 825 feet; Franklin and others' No. 12 Parrish, fishing at 1,850 feet; the Gulf Production Co.'s No. 3 Siegle, drilling at 1,575 feet; the Griswold Oil Corp.'s No. 3-D Wilson, drilling at 410 feet; Holmes and others' No. 1 Wilson, drilling in shale at 1,390 feet; the Humble Oil & Refining Co.'s No. 2 Orton, set and cemented casing on top of an oil sand at 1,787 feet; Jeffries and others' No. 1 Parrish, fishing for 6⅝-inch casing at 1,671 feet; McGregor and others' No. 3 Robertson, bailing casing at 1,392 feet; McJunkin and others' No. 1 Falls County School land, drilling in shale at 310 feet; McPhail and others' No. 1 Wilson, drilling at 1,600 feet; the Magnolia Petroleum Co.'s No. 3 Robertson, drilling at 840 feet; Murchison and others' No. 3 Richardson, drilling at 965 feet; Parker and others' No. 1 Brown, showing 5 bbls. of oil and 5 bbls. of water at 474 feet; Waite Phillips' No. 1 Wilson, flowing 90 bbls. a day and not yet completed at 1,532 feet; Saunders and others' No. 1 Logan, flowing 75 bbls. a day and not completed at 1,280 feet; Shamrock Oil Co.'s No. 9-B Richardson, drilling at 790 feet; No. 3-C Richardson, drilling in shale at 655 feet; No. 6-D Richardson, standardizing on top of an oil sand at 1,333 feet; No. 7-D Richardson, drilling at 1,330 feet; Sheppard and others' No. 1 Albright, repairing boiler, depth 1,220 feet; Shipley and others' No. 1 Miller, drilling at 1,425 feet; the Sunshine State Oil & Refining Co.'s No. 1 Reilly, drilling at 1,800 feet; the Swastika Oil Co.'s No. 6-C Richardson, drilling at 1,190 feet; the Texhoma Oil & Refining Co.'s No. 5 K. & K., drilling in rock at 1,510 feet; the Tex-O-Kan Oil Co.'s No. 1 White, preparing to pump and test a sand showing oil at 1,400 feet. Tucker and

(Continued on Page 102)

STEEL SUPERIOR DERRICK

One of the Distinctive Features of Superior Steel Derricks

The Sleeve and Pilot Pin Joint

The joint is made up of a heavy steel sleeve casting which is permanently attached to the upper end of the leg section and a steel pilot pin casting which is pressed into the lower end of each leg section.

Both of these castings are designed with two lugs at the center, the lugs on the pilot pin fitting in between the lugs on the inside of the sleeve casting. Thus the ends of each section of pipe are reinforced both inside and outside, precluding any possibility of crushing or fracture of the pipe at the ends.

The locking feature obtained by the combination of lugs on the pilot pin and in the sleeve prevents the twisting of the leg members at the joints, and also insures perfect alignment of the leg sections.

The joint is stronger than the pipe from which the legs are made and any possibility of bending is therefore eliminated.

Ask the driller who has used one

SUPERIOR TUBE COMPANY

STEEL DERRICKS—CASING—TUBING—LINE PIPE

Kansas City, Mo.

Pittsburgh Tulsa St. Louis Dallas Casper

GOODYEAR MEANS GOOD WEAR

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You will find your drilling and pumping are done more efficiently and economically when you equip with Goodyear Belts. These belts are built to give powerful and trouble-free service, under the most exacting conditions of oilfield duty

Goodyear Mechanical Rubber Goods serve so well because they are designed and built with a full understanding of oilfield conditions and refinery duty.

They stand up to the job, they do their work efficiently and economically, and they wear a long, long time.

For service records, or for any other information about them, write to Goodyear, Akron, Ohio, or Los Angeles, California.

TRANSMISSION BELTS
Goodyear, Klingtite

HOSE
Air, Water, Steam, Gasoline, Fire and Mill

OIL SUCTION or DISCHARGE HOSE

ROTARY HOSE

PACKING
Asbestos and Rubber Sheet for both field and refinery service

PUMP VALVES

SLUSH PUMP SLEEVES

SWAB RUBBERS

GOODYEAR

CONCERNING GOVERNMENT AND GASOLINE

(Continued from Page 20)

the 4,100,000 motor vehicles east of the Mississippi will pay $38,500,000—a total annual gasoline tax bill of $70,000,000.

New Forms of Taxation

All of the motor vehicles of the United States pay registration fees, licenses, etc., but almost exactly half of them do not pay any gasoline taxes. Hence, referring to Table 1, the amount received for fees and licenses will increase slowly as the registration increases. And while there may be a few instances where registration fees and licenses may be reduced they will be far more than offset by the new forms of taxation that will very probably sweep over the country.

The idea of compulsory insurance will undoubtedly be enacted by practically all legislatures within the next few years. This will probably range from $5,000 to $10,000 for personal injury or death and from $1,000 to $2,000 for property damages. This tax will be a direct charge to the owner of the car and will make him financially capable of paying for damages. The idea of creating this capability is clearly in the minds of many legislators and, once enacted, will spread as rapidly as did the first gasoline tax.

The idea of "common carrier" taxes for motor busses is spreading rapidly and will shortly be enacted in practically all of the States. Limitations of truck sizes, weights and speeds are rapidly taking definite form in a number of States, and legislation along this line is sure to spread rapidly. Some idea of what this may mean can be gotten from the Kentucky law that ranges from $20 a year for a delivery wagon of 1,000 pounds and under to $215 for a truck of 9,000 to 10,000 pounds. In Virginia a 5-ton truck is taxed $200. In South Carolina a 6 to 7-ton truck pays $800. If the truck is over 7 tons capacity it requires a special permit from the highway authority in each county in which it operates, along with the approval of the State Highway Commission. Obviously South Carolina wants to tax the heavy truck off the road. In Virginia each motor vehicle carrier that is a corporation must pay to the State one-tenth of 1 per cent of the gross revenue on all business done within the State.

Imports on Cars

In order to reduce the stealing of cars, which is one of the serious problems in the expansion of the automobile industry, it is practically certain that some form of law will be enacted throughout the country that will require the passenger of a car to have a "certificate of title"—with an accompanying charge.

Between our national war tax of 5 per cent on cars, tires, parts and accessories, and 3 per cent on trucks, and our State tax on motor vehicles as property, along with registration fees, licenses and the tax on gasoline as now enacted, along with the almost certainty of early enactment of laws requiring compulsory insurance and certificate of title, the burden laid on motor vehicle owners by our national and State Governments is growing increasingly heavy. The aggregate of all of these taxes is becoming a serious problem, not only with the owner but also with the automobile industry which fully realizes the sales resistance created by the prospect of increasingly heavy taxes.

It is entirely probable that the national tax on cars and trucks will shortly be repealed as our present national revenues are somewhat in excess of our expenditures. If compulsory insurance laws are passed, various States might decide to carry the insurance, at cost, and thereby minimize the burden to the motor vehicle owners. These taxes are direct and inescapable items that add to the cost of operating a car or truck, while the idea of reducing the cost of gasoline makes an entirely different kind of appeal to the motorist.

Difference in Psychology

The psychology back of paying a $10 registration fee once a year is entirely different from that of paying a tax of 2 cents a gallon on 500 gallons of gasoline used during the year. The registration fee is accepted as a matter of fact, paid and forgotten—but the tax of 2

TABLE NO. 1
Motor Vehicle's Contribution to Fund for Highways

Year	Total Highway Income	From Motor Vehicles: Fees-Licenses	From Motor Vehicles: Gasoline Tax	Per cent From Motor Vehicles
1914	$ 240,262,000	$ 12,382,000	.....	5.1
1921	1,149,413,000	118,942,000	$ 3,685,000	10.6
1922	*1,150,000,000	152,047,000	11,923,000	14.2
1923	1,167,870,000	188,970,000	36,819,000	19.5
*1924	1,200,000,000	200,000,000	70,000,000	22.5

*Estimated.

TABLE NO. 2
Enactment of State Laws Taxing Gasoline

1919—February 25, Oregon 2 cents. During year laws passed by North Dakota, New Mexico and Colorado, 1 cent each.
1920—March 23, Kentucky 1 cent.
1921—Arizona, Arkansas, Connecticut, Florida, Georgia, Louisiana, Montana, North Carolina, Pennsylvania, South Dakota and Washington, 1 cent each.
1922—Maryland and Mississippi, 1 cent each. South Carolina, 2 cents.
1923—Delaware, Maine, New Hampshire, Oklahoma, Texas and Wyoming, 1 cent each. Alabama, California, District of Columbia, Idaho, Indiana, Nevada, Tennessee, Utah Virginia and West Virginia, 2 cents each. The following States increased their taxes, effective during 1923: Arkansas, 2 to 3; Colorado, 1 to 2; Florida, 1 to 3; Georgia, 1 to 3; Montana, 1 to 2; North Carolina, 1 to 3; Oregon, 2 to 3; Pennsylvania, 1 to 2; South Carolina, 2 to 3; South Dakota, 1 to 2; Virginia, 2 to 3 cents.
1924—Effective January 1, Delaware, Maryland, New Hampshire and Washington, 1 to 2; Arkansas, 3 to 4. March 8, Oklahoma, 1 to 2½ cents.

TABLE NO. 4
Automobiles in States in Which Gasoline Is Not Taxed

States—	Cars and Trucks January 1, 1924
†*New York	1,214,000
†*New Jersey	430,000
†*Massachusetts	475,000
†*Rhode Island	85,000
†Ohio	1,068,000
*Illinois	969,000
*Michigan	730,000
*Wisconsin	457,000
†Minnesota	448,000
*Iowa	576,000
*Missouri	475,000
*Nebraska	286,000
*Kansas	375,000
	7,590,000

*Legislature meets in 1925. †Legislature met in 1924.

TABLE NO. 3
Estimated Income From Gasoline Taxes for 1924

West of the Mississippi — State—	Tax	Income
*California	2	$11,000,000
*Oregon	3	2,500,000
*Washington	3	2,000,000
*Nevada	2	200,000
*Idaho	2	600,000
*Utah	2½	700,000
*Arizona	3	600,000
*Montana	2	700,000
*Wyoming	1	200,000
*Colorado	3	2,000,000
*New Mexico	1	200,000
*North Dakota	1	600,000
*South Dakota	2	1,250,000
†*Oklahoma	2½	2,750,000
*Texas	1	3,200,000
*Arkansas	4	2,000,000
†Louisiana	1	1,000,000
		$31,500,000

East of the Mississippi — State—	Tax	Income
*Maine	1	$ 400,000
*New Hampshire	2	500,000
*Vermont	1	200,000
*Connecticut	1	1,000,000
*Pennsylvania	2	10,000,000
†Maryland	2	1,500,000
*Delaware	2	300,000
†Virginia	3	3,000,000
*West Virginia	2	1,000,000
North Carolina	3	3,500,000
†*South Carolina	3	2,000,000
†Georgia	3	2,500,000
*Florida	3	2,500,000
‡Alabama	2	1,000,000
†Mississippi	1	500,000
*Tennessee	2	1,500,000
†Kentucky	1	1,000,000
*Indiana	2	5,000,000
District of Columbia	2	1,000,000
		$38,500,000

*Legislature meets in 1925. †Legislature met in 1924. ‡Next session in 1927.
Total estimated revenue from gasoline taxes in 1924, $70,000,000.
Taxed west of the Mississippi, 3,532,000 cars. Not taxed, 2,172,000.
Taxed east of the Mississippi, 4,100,000 cars. Not taxed, 5,417,000.

The A B C of Vents
OCECO Vent Units

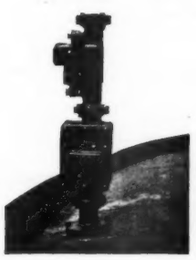
(1) Represent the safest and most improved method in venting of tanks;

(2) Used by leading oil companies of the country;

(3) Approved by The Underwriters' Laboratories, Inc.

OCECO Free Vent Unit (Type A)

OCECO Conservation Vent Unit (Type B)



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YOUR TANKS
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The hot days of midsummer.

Roofs and interior gases heated to a high temperature —vents emitting gases. Possibly, a strain on the roof—a pull on the top rings of the tanks.

A thunderstorm!

The heavens open up—a deluge of cold water—a quick contraction of the gases within the tanks due to the cooling action of the rain—excessive vacuum and a downward pull on the roof.

What happens?

It depends on your vents.

It is of utmost importance that:

(1) The maximum conditions be considered in setting up the size of these vents;

(2) That knowledge be had as to the capacity flow at various pressures of the different sizes and types of vents;

(3) That the proper type of vent be used for the various classes of tanks.

The OCECO Schedule and Charts explain how to properly equip tanks so as to eliminate any chance of injury, and also absolutely safeguard them against fire. We shall be glad to send these upon request.

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Fuel Oils	Wire Rope Lubricants
Bunker Oils	Pale Oils
Diesel Fuels	Red Oils
Signal Oils	Black Oils
Miners Oil	Floor Oils
Gas Oil	Paraffin Oils
Distillates	Wax Oil Stock
Spindle Oils	Waxes
Motor Oils	Oil Soap
Engine Oils	Asphalts
Dynamo Oils	Road Oils
Machine Oils	Asphalt Cement
Cylinder Oils	Pipe Coating
Cylinder Stocks	Roofing
Car Oils	Roofing Paper
Greases	Roofing Cement
Cup Greases	Petroleum Coke
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cents a gallon is resented each of the 100 times the gasoline tank is filled up.

There are 1,000,000 motor vehicles in Pennsylvania, the gasoline tax is 2 cents a gallon and the revenue from this tax in 1924 will be about $10,000,000. It is not probable that any candidates for the Pennsylvania legislature made their campaign for election on the promise that they would levy taxes on gasoline that would take $10,000,000 out of the pockets of Pennsylvania motorists.

Haven't they rather placed themselves in the position where the only course left open is to agitate "cheap gasoline"—and throw the $10,000,000 back on the oil men to be absorbed by them out of their profits—if they have any?

And doesn't the same situation prevail in every other State that has passed a law taxing gasoline?

The sooner the oil industry recognizes the strategic significance of a legislature's raising $10,000,000 from 1,000,000 motorists and then keeping the motorists from paying the $10,000,000 by keeping the price of gasoline from going up, to say nothing of trying to put it down, the sooner the industry will recognize the tremendous strength of a State legislature's position when it goes out on a program of bringing about cheaper gasoline at the same time that it levies a tax on gasoline.

Making Oil Absorb Tax

If by regulation, State operation of filling stations or otherwise, a situation can be created that will force the oil industry to "absorb the tax" of 1, 2 or 3 cents a gallon, the 15,000,000 motorists of the United States will naturally be relieved from paying the tax. The oil industry will pay it.

If the legislatures of our 48 States pass laws taxing gasoline an average of 2 cents a gallon and we use 6,000,000,000 gallons a year, the tax will amount to $120,000,000 a year.

It is perfectly obvious that if the price of gasoline can not be raised 2 cents a gallon and the $120,000,000 collected from the public and returned to the industry, then the $120,000,000 will have to be borne by those who sell the gasoline, whether they be great oil companies that own production, pipe lines, refineries and filling stations, or whether they buy gasoline to sell at a profit and have no further interest in the petroleum industry than as "merchandisers of gasoline."

And here are a few things that are obvious to our political friends—including Mr. La Follette. We have had a large overproduction (possibly underconsumption) of crude oil for at least three years, and the price of crude has been low for the small producer to make any profit. From the manufacturer's standpoint gasoline has been in at least as serious an economic position as crude oil. And practically every newspaper reader of the United States knows that the petroleum industry has on its hands today about 400,000,000 bbls. of crude oil and over 1,500,000,000 gallons of gasoline.

Cost of Distribution

The 15,000,000 motor vehicle owners of the United States will not concede that if it costs 11 cents to find crude oil, pipe line it, store it and refine it into a gallon of gasoline, the "marketing" end of the industry is entitled to a spread of 9 cents a gallon, thereby making the filling station price 20 cents to the motorist.

If it costs as much, or anyways near as much, to market a gallon of gasoline as it does to find and produce the crude oil, pipe line and store it and then refine it, then there is something radically wrong with the "marketing" end of the petroleum industry. In reviewing the industry's assets we find that they are conservatively made up of the following items:

Production	$4,000,000,000
Transportation	500,000,000
Refining	2,000,000,000
Marketing	1,500,000,000
Total	$8,000,000,000

If the producing, transporting and refining ends of the petroleum industry represent assets of $6,500,000,000 and the marketing end $1,500,000,000, then obviously the marketing end of the industry should be satisfied with a profit that is in keeping with that earned by the $6,500,000,000 of assets.

Of course the figures of 11 cents, 9 cents and 20 cents, used above are purely illustrative, but there is entirely too much truth in them for the industry to ignore.

Oil Industry's Peril

The storm of public indignation against the railroads brewed for years before it finally broke—and it has taken almost a generation for the railroads to get back into the public's confidence to the point of getting further finance in reasonable amounts.

There is a strong under current in the minds of the people, and an unmistakable tendency on the part of legislatures, in the direction of having the oil industry absorb the tax on gasoline.

It is practically certain that within the next few years every State will be taxing gasoline. And it is almost as certain that the average tax for the county as a whole will be slowly increased, probably to an average of 3 cents a gallon—or more. And the day is not far distant when the taxes from gasoline will be running around $200,000,000 a year.

The aggregate sales, at retail prices, of all of the products made from crude oil probably do not exceed $2,000,000,000 a year today. And if our legislators can levy taxes on gasoline alone totaling $200,000,000 a year, or 10 per cent of the retail price of all of the products made from crude oil, and can throw these taxes back on the oil industry, then the industry will force a serious situation.

That the 1921 gasoline tax of $3,675,000 will in a very few years increase to $100,000,000 and then $200,000,000 is a foregone conclusion. The real problem is, will the tax be included in the price that the consumer pays at the filling station—or will it be absorbed by the oil industry?

SAYS MEXICO NEEDS SOME NEW OIL LAWS

(Continued from Page 66)

been performed indicating that these lands were being held for oil development purposes, would not be included in the nationalization program, it must be remembered that these properties form but a minority of all the oil producing lands in Mexico and that the greater portion of them was held by Mexicans previous to the promulgation of the Constitution of May 1, 1917. Likewise it must not be overlooked that to date no law has been enacted interpreting Article 27 and regulating the industry. All laws so far submitted give preferential rights and do not allow the oil companies the same latitude to operate as formerly."

CALGARY GAS EARNINGS

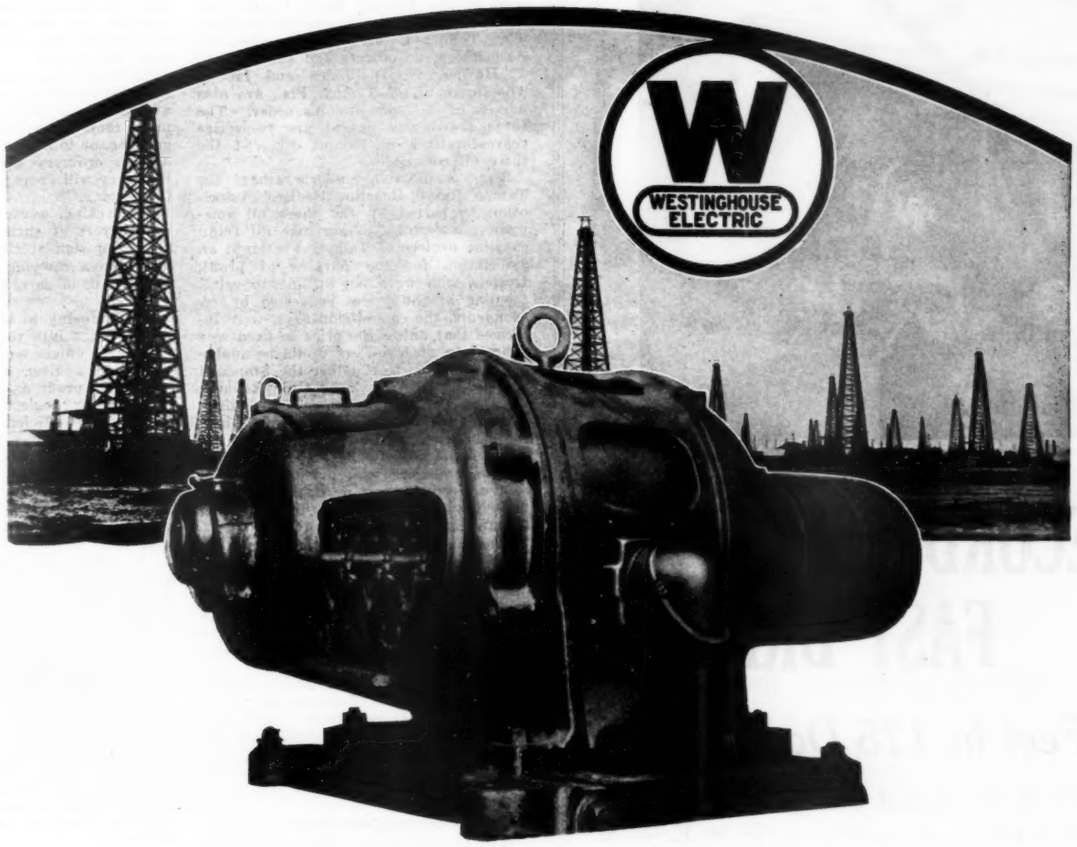
Gross earnings of the Canadian Western Natural Gas, Light, Heat & Power Co., of Calgary, Alta., for May were approximately $56,197, compared with $53,331 for the corresponding month last year. Aggregate earnings from October 1 to May 31 amounted to $760,012 against $741,553 in the corresponding period of the previous year, an increase of $18,459.

DEATH OF SIR EDMUND OSLER

CHATHAM, Ont., Aug. 9.—Sir Edmund Osler, director of Imperial Oil, Ltd., and of the International Petroleum Co., Ltd., and for many years a prominent figure in Canadian finance, died recently at his home in Toronto, in his seventy-ninth year, after several weeks' illness. The later Sir William Osler, the famous physician, was a brother.

QUEBEC GASOLINE CONSUMPTION

Between $5,000,000 and $6,000,000 is being spent this year for gasoline to operate motor vehicles and motor boats in Quebec province, either by local residents or visitors, according to the Provincial Revenue Department. It is estimated 17,500,000 gallons of gasoline will be used.



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290 wells in Powell Field are pumped by electric drive

196 of these are driven by Westinghouse motors.

Powell Field has thus expressed its preference for Westinghouse 35-15 hp. motors.

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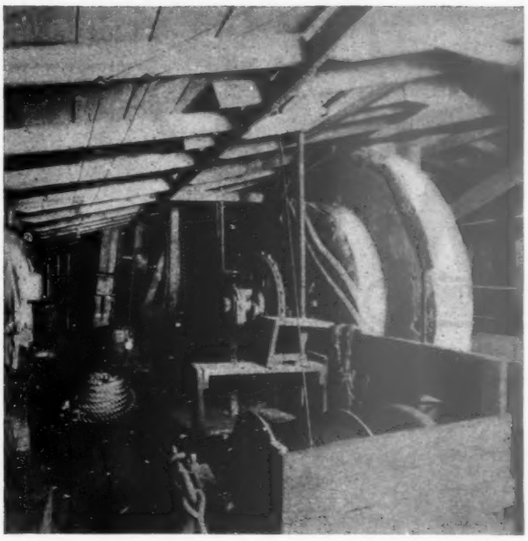
dustry should be satisfied with a profit used.



A RECORD FOR FAST DRILLING

5000 Feet in 175 Days

WICKWIRE ROPE drilled a test well to a depth of 5282 feet in the N. W. corner of the N. E. 40 of the S. W. quarter of 7-7-10 in Hughes County—south of Okmulgee, Okla. This record—the deepest drilling in the Mid-Continent field—proves that Wickwire Wire Drilling Line is made of the right material in the right way to accomplish big things.

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Morrison, Okla.
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Okmulgee, Okla.
Pawhuska, Okla.
Ponca City, Okla.
Shidler, Okla.
Tulsa, Okla.
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Murray Tool & Supply Co., Tulsa-Cleveland, Okla.
Federal Supply & Machine Co., Augusta and Winfield, Kans.

WICKWIRE SPENCER STEEL CORPORATION
41 East Forty-Second Street, New York

FEDERAL TRADE COMMISSION ISSUES ORDER TO TAMPA GASOLINE INQUIRY

WASHINGTON, D. C., August 9.—The Standard Oil Co. of Kentucky, the Gulf Refining Co., and The Texas Co., are named in a cease to desist order issued by the Federal Trade Commission in connection with the sale of gasoline. The Tampa Retail Gasoline Dealers' Association, its officers and members, F. T. Hurner, F. D. Jones and H. G. Thompson, all of Tampa, Fla., are also named in the commission's order. The three individuals named are respective representatives in Tampa, Fla., of the three oil companies.

The commission asserts that the Tampa Retail Gasoline Dealers' Association supported by the three oil companies, undertook to organize all retail gasoline dealers of Tampa, Fla., into an association for the purpose of profit. Dealers who were not willing to retail gasoline at the prices suggested by respondents, the commission says, were informed that unless the price so fixed was adhered to, such dealers would be unable to buy gasoline from either the Standard Oil Co. of Kentucky, the Gulf Refining Co., or The Texas Co. The findings state that the three oil companies aided the committee in the organization of the association by refusing to sell gasoline to retail dealers who did not conform to the 4-cent margin or by not refusing to sell such dealers, but by rendering insufficient service.

The findings further state that respondents' acts caused the public of the city of Tampa and vicinity to be deprived of competition in the sale of gasoline by retail dealers, and further to any a higher price for gasoline than had been paid previous to the fixing of prices by respondents.

The committee's order outlines in detail unfair methods of competition to be discounted by the respondents, and separates them under three headings as follows: (1) all the respondents; (2) refining companies only; (3) respondents other than refining companies. The order follows:

Commission's Order

It is hereby ordered, That all and several of the respondents, their agents, servants and employes do cease and desist from using directly or indirectly the following practices and methods, or any of them:

(1) Combining, conspiring or uniting in a common or concerted course of action among their number or any part thereof or with others, where the effect would or might be to regulate or select, in whole or in part, the outlets for the direct and immediate and proximate sale of gasoline transported from without the State by the said gasoline refining companies, upon the basis of adherence to a given price or given margin between purchase price and resale charge, or according to any method of selection other than such as results from free competition, or so as to close certain outlets, or to eliminate any possible and otherwise feasible outlets for such sale.

(2) Combining, conspiring or uniting in any common or concerted course of action with the purpose, tendency or effect of persuading, inducing, coercing or compelling any persons, firms or corporations buying gasoline directly, immediately and proximately from refining companies engaged in transporting it from outside the State wherein such purchase is made, to maintain or adhere to a given and uniform resale price, or margin of profit between the price paid to the said refining companies and the resale price received, as a condition or prerequisite to their carrying on any written or oral communications having like purpose, tendency or effect.

Cease and Desist

It Is Further Ordered, That the respondent refining companies, their agents, servants, employes and representatives forever cease and desist from uniting in a common course of action directly or indirectly to use the following practices and methods, or any of them:

(1) Attching any condition, express or implied, to purchases made by gasoline dealers who are wholesale buyers directly, immediately and proximately from the said refining companies, to the effect that such dealers shall maintain resale prices specified by the refining company or specified by any other person or association of persons.

(2) Directly or indirectly indicating to said dealers that unless they maintain a given resale price or given margin of profit they will or may be unable to buy gasoline, or to buy it at the current price and at ordinary terms and service, or that they will or may encounter difficulty in so doing.

(3) Asking, advising or requiring the said buyers of such gasoline to display a card or sign at their respective places of business showing their selling price, as a means of carrying out the aforesaid purpose.

(4) Refusing to sell and deliver gasoline brought into the State and sold as aforesaid, unless such dealer so buying maintains a given or uniform price or margin of profit as aforesaid, and from declining or neglecting to give service of gasoline efficient, or adequate in amount or in time or in regularity of service, to any such dealer because or on the ground that he is a price cutter or does not adhere to any given price or margin of profit, either explicitly or upon any ground or under any subterfuge whatever.

(5) Affording a less efficient and adequate service to any such dealer, buying as aforesaid, who may fail to adhere to a given price or margin of profit than is afforded to other direct customers at the same time, because of the resale made by any other dealer or dealers.

Others Than Companies

It Is Further Ordered That the respondents other than the gasoline refining companies and their respective agents forever cease and desist from combining, conspiring or uniting upon any common or concerted course of action, directly or indirectly, to use the following practices and methods or any of them:

(1) Suggesting to or threatening any dealer in gasoline buying directly, immediately and proximately from gasoline refining companies bringing their product from without the State, and conducting an outlet for gasoline brought into the State, that if he shall refuse or fail to adhere to or maintain a given or uniform price or margin of profit he will or may be unable to buy gasoline, or to buy at the current price, at ordinary terms and with customary service.

(2) Persuading, urging, inducing, coercing or compelling any gasoline refining company to refuse sales to any such dealer because or on the ground that the said dealer declines or omits to sell at any given price or margin of profit or discriminating against and price-cutting dealer in price or service as contrasted with the price and service accorded to other dealers engaged in similar business at the same time.

(3) Boycotting, or withdrawing, or withholding patronage or custom, or threatening to boycott, or withdraw, or withhold patronage or custom from any gasoline refining company which is not adhering to any given policy as regards price or margin of profit, or which sells to price-cutting dealers, or urging others so to boycott or withdraw or withhold patronage.

(4) Hindering, restricting or restraining any such refiner of gasoline from the free and unregulated solicitation or selection of its direct, proximate and immediate customers, or influencing or attempting to influence any such refiner not to accept as a customer any dealer whom the refiner, in the exercise of free judgment, has or may desire to have as a customer, for the reason or upon the ground that the said customer fails or declines to adhere to any given price or margin of profit or is a price cutter.

(5) Using any other methods whatsoever to persuade, urge, induce, coerce or

Minus Delays!

A plus service combining speed and quality that increases profits

THIS offers you quality that is bound to please your customers—with speed that increases the business you can handle. For here is a producing, refining and selling organization that blankets the country. It is service minus delays—minus disappointments. You get the products, the specifications you want—and you get them when you want them! Write, wire or phone.

GASOLINE—all grades
LUBRICATING OILS—all grades
Tank cars, carloads in barrels
CYLINDER STOCKS—600, 650
Steam refined and filtered
FUEL and GAS OIL—all grades
WATER WHITE KEROSENE
Gravities 40 to 47
MINERAL SEAL or 300 OIL

Note the list and locations of our 9 refineries and 9 branches! All linked by private wires. That's why we can handle your business with telegraphic speed.

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Independent—and successful, through unvarying high quality in all products

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Branch Offices at

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for 30 years the Seal of Satisfaction on Tanks and Refineries.....

The Warren City Tank & Boiler Co.
Warren, Ohio

compel buyers of gasoline, purchasing directly, immediately and proximately from gasoline refining companies their product from beyond the State, to maintain any given price or margin of profit or to leave the business of retailing gasoline, or any other methods whatsoever to persuade, urge, induce, coerce or compel such refiners of gasoline to discriminate as aforesaid against such customers or prospective customers who decline to adhere to any given price or margin of profit, or employing any methods for regulating the sale or the outlets for the sale of gasoline by refining companies importing the same from without the State.

Oil Supply Going In Thirteen Years Professor Declares

Can botanists solve the motor fuel problem? This question was asked by Dr. M. A. Chrysler in a lecture at the New York Botanical Garden. He said that in 13 years the world's total supply of oil would be exhausted at the present rate of consumption. Taking as his topic "Harnessing the Sun," Dr. Chrysler. who is professor of botany at Rutgers University, said:

"The ancients had some idea of their dependence on the sun, for they worshiped it. In our irreverent days we treat the sun much as a cart horse, that is, more or less indirectly we harness him and make him do the world's work.

"The world needs matter and energy. Although these two are interdependent, the latter is the one which is in danger of being depleted, because we are constantly degrading energy into less available forms, especially heat. For instance, when coal is used in a locomotive, we change potential energy into kinetic energy, most of which is frittered away as heat.

"Although we are today largely dependent on coal and petroleum, we may enumerate first the natural sources provided by the wind, tides and waterfalls. It will be seen that the energy is in each of these cases derived from the sun. When we put a waterfall in leash we are really harnessing the sun. Considering next the energy used in the human body, this is derived from plants, which in turn absorb it from the sun in the wonderful process of photosynthesis—the process of building up carbohydrates from carbon dioxide and water by green plants as a result of the energy absorbed from the sun by chlorophyll.

"Throughout the ages since chlorophyll made its appearance this has been the chief means by which the earth has absorbed solar energy for present and future needs. It has been established that coal is the modified remains of the forests of the coal period, so that coal is fossil solar energy. It is only a hundred years since we began seriously to exploit these stores, but the supply is strictly limited, though vast.

"Much more limited and disappearing much more rapidly is our supply of petroleum, which like coal is undoubtedly a product of plant life. We are using up the principal of our legacy of oil at an alarming rate. Although gasoline now costs less than it did a few years ago, this is due to production beyond the power of storage. In 13 years the supply of oil will be exhausted, and yet the demand grows apace.

"Various ways of solving the problem have been offered, including importing crude oil, 'cracking' the oil, utilizing oil shales and using substitutes such as benzol and alcohol. The botanist has seriously considered the last proposal. Alcohol is generally made from grain, and it has been calculated that the present acreage of corn, if turned into alcohol, would generate as much power as the gasoline now consumed annually. But this grain crop represents 60 per cent of all the starch and sugar producing plants. Can we afford to burn up so much foodstuff?

"There are other possible sources of alcohol, such as sawdust, and perhaps we can improve on nature's wasteful method of absorbing solar energy. It may become necessary to devote ourselves largely to the growing of plants which mature quickly. We may also make greater use of the tremendous power of photo-synthesis shown by the vegetation of the tropics. We may, at any rate, rest assured that when we have used up our stores of solar energy we will be dependent on our daily ration which we receive from that body. This threatens a return to one-man power and a collapse of our civilization. Will our prodigality hasten this day, or will our inventive genius be equal to the task of more effectively harnessing the sun?"

EASTERN FIELDS

(Continued from Page 58)

on the Cynthia Adkins farm. In Union district, the Cambridge Gas Co. is through the Big Injun on the Smith farm and waiting for a shot. In the same district, the Carter Oil Co. has a rig completed on the M. J. Tully farm. In Laurel Hill district, the Columbia Gas & Electric Co. is building a rig on the J. C. Cline farm. In Curry district, Putnam County, the Sovereign Gas Co. is due in the sand at a test on the John Beckett farm.

In Mannington district, Marion County, the Manufacturers Light & Heat Co. is rigging up at a second test on the Peter McDivitt farm. In Central district, Doddridge County, the Imperial Oil & Gas Products Co. is due in the Big Injun sand on the L. Dotson farm. In Courthouse district, Lewis County, H. H. Duncan & Co. made a location on the John McDonald farm. In Collins Settlement district, Moran & Duncan shut down for orders on the R. W. Duncan farm. Horner & Co. are due in the Gordon sand on the Hyer heirs' farm. In Union district, Ritchie County, D. M. Heckert started to drill on the J. F. Somerville farm. In Murphy district, B. C. Deem & Co. are drilling on the J. M. Rymer farm. In Union district, Hook & McQuain are rigging up on the A. W. Zickafoose farm. On McFarlan Creek, Murphy district, the Hope Natural Gas Co. has a rig completed on the Sidney Jordan farm.

With the Deep Tests

On the Chestnut Ridge, Westmoreland County, the Peoples Natural Gas Co. is down 3,900 feet at its second deep test on the Booth-Flinn property, and drilling in a very hard sand formation. At a depth of 6,827 feet a light gas pressure, estimated at 27,000 feet a day, was developed. It is now drilling below the depth at which the first test got its gas. It is hoped to find a soft place in the formation and in it a deposit of gas.

The test on the Seger Brothers' farm has been cemented back to a 6,600-foot level and waiting for the cement to set. They expect to resume drilling in a few days and straighten the hole. It was a crooked hole, when drilling at 6,680 feet, that caused delay.

The Hope Natural Gas Co.'s deep test on the Joseph Gordon farm, near Terra Alta, Portland district, Preston County, is drilling at 3,502 feet. On Little Buffalo Creek, Union district, Harrison County, the Reserve Gas Co. is getting rig timbers to its location for a very deep test on the L. L. Smith farm. When the well starts to drill the Reserve company will introduce an innovation by putting on three instead of two crews. They will work 8-hour shifts. Barring accidents, this well will be drilled deeper than all previous deep tests.

PENN MEX GETS PRODUCER

PITTSBURGH, Pa., Aug. 9.—In the Panuco district, Mexico, the Penn Mex Fuel Co. has drilled in No. 7 Paciencia. It is flowing by heads from a 1,470-foot level and estimated to be good for 2,000 bbls. a day. The depth at which this well got its production is very shallow for this district. The same company's No. 4 on the Jardin tract is located southeast of the Alamo Pool and is producing from a depth of 1,213 feet and doing better than 1,000 bbls. a day.

On the job for thirty years—

WE have authentic records of Goodrich Coupling Rubbers which retained their life and packing properties after *thirty years*, in use on natural gas lines.

"Grade 19" Coupling Rubbers seal your pipe-line joints permanently—they are proof against the action of gasoline condensate, which causes rotting of ordinary rubbers and the inevitable costly leak which follows.

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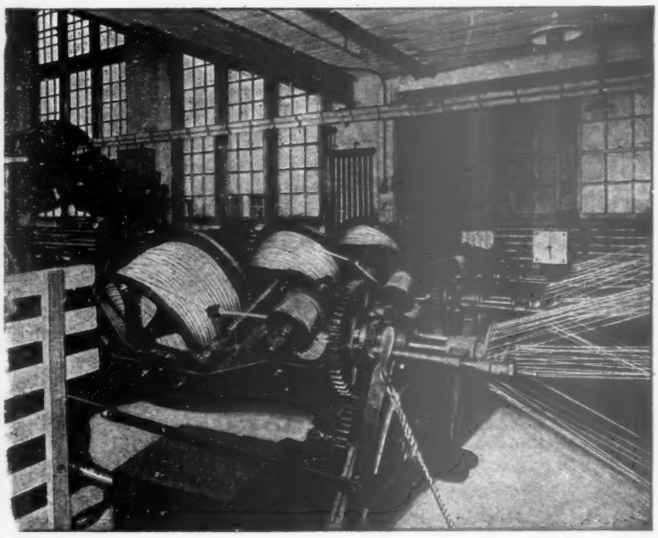

MAKING MANILA DRILLING CABLES

The above illustration shows a section of the factory of the Wall Rope Works, Inc., Beverly, New Jersey, that is devoted to the manufacture of manila drilling cables. The yarns are being formed into strands or cable "ninths." Three of these strands are laid into a rope and then three ropes used to make a cable.

WALL MANILA DRILLING CABLES
PURE MANILA BULL ROPES

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American Tool & Supply Co.—Oklahoma
Atlas Supply Co.—Oklahoma and Texas
The Bovaird Supply Company—Oklahoma and Kansas
Bovaird & Company—Bradford, Pa.
The Bridgeport Machine Company—Oklahoma, Kansas and Texas
Decker Tool & Supply Company—Texas
The Drillers Supply Company—Kansas
Hinderliter Tool Company—Oklahoma
Murray Tool & Supply Company—Oklahoma
New Martinsville Supply Company—New Martinsville, W. Va.
Republic Supply Company—Oklahoma
Rope & Cordage Company—Parkersburg, W. Va.
The Staves Supply Company—Kansas
Tennant Supply Company—Oklahoma
Wagner Supply Company—Texas
Western Supply Company—Oklahoma
Western Drilling Tool & Supply Company—Kansas
Williamsport Wire Rope Company—Oklahoma, Kansas, Arkansas and Wyoming

WALL ROPE WORKS, INC.
Established 1830
General Offices: 48 South Street, New York City
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Worthy of Trust

More Gasoline Tax Declared Needed for California Highways

Although it is expected that California's recently imposed gasoline tax of 2 cents a gallon will yield a revenue this year of $7,500,000, the funds from which will be devoted to highway improvement in the State, this amount is considered by officials of the Automobile Club of Southern California as hardly adequate to meet the needs imposed by the heavy automobile traffic within the State and the present program of road development. In the 13 southern counties of California there are approximately 3,000 miles of paved State and county roads, and 27,000 miles of secondary roads. Within this territory there are owned and operated some 600,000 motor vehicles, while the number of visiting motorists is about one-third of that number. The sole contribution of these visitors to the upkeep of the arteries of travel is obtained by means of the new gasoline tax.

Demand Above Funds

Last year, according to Morris M. Rathburn of the Automobile Club of Southern California, $3,464,506 was spent on new highway construction in southern California. Bridges on State and county highways were constructed to the value of $425,767. The total mileage added to southern California's improved highways for that year was 135 miles.

"Road building is similar to city building or State building in that the job is never finished," said Mr. Rathbun. "What was adequate a few years ago no longer serves. New demands are constantly arising. The need for additional funds always is pressing. The situation in southern California is unpredented, so rapidly has the demand kept ahead of the supply. Even the estimates of the Automobile Club of southern California, the leading organization of its kind in the world, fell far short in expectancy of the use of highways. The club experts and all other authorities could not realize a few years ago that the travel expectation of 1925-1926 would arrive in 1923."

Some of the problems of the road builders in California were summed up recently by Robert M. Morton, State highway engineer, who said:

"Each job requires special study for the preparation of specificatiors. In view of our traffic studies made last year in conjunction with the United States Bureau of Public Roads, a standard of 20-foot roadway would be ridiculous if applied to the resurfacing of Whittier Boulevard southeast of Los Angeles. The average number of vehicles is around 9,000 on week days, and our observations in other locations show that such a volume of traffic cannot find space on a 20-foot pavement. In conjunction with the County of Los Angeles and a local road improvement district we are planning for the construction of a street 56 feet in width, with curbs and gutters, which we will soon have under contract.

Road Problems

"The factors which influence design are the topography, which has a bearing on the alignment and curvature; the soil conditions, the treacherous nature of which must be recognized and counteracted; available materials and the amount of traffic, both present and future. No longer can the highway engineer, in haste to satisfy the public with the complete pavement, neglect to study thoroughly all of these conditions and consider most seriously what the future will hold in store for his finished road product.

"We admit that we are at a loss to know how far in the future to look in the design of highways. Based on the increases of the past five years, in 1930 California will have operating over its highways about 4,000,000 motor vehicles. Many think we will soon reach the saturation point in number of automobiles. It seems reasonable that relatively stable conditions are reached when there is one automobile for each family. We doubt whether it would be possible or wise for California Highway Commission to proceed now to fix standards in pavement construction on a policy using such an enormous projected increase in automobiles.

"We are endeavoring, however, to accomplish in all our construction and reconstruction such betterment to alignment and curvature, additional width of graded sections, and length of culverts as will permit 50 per cent increase in future pavement width over that now being installed.

"When considering the engineering features of the State road system, one must keep in mind its development from zero in 1912 to its status in 1923 and the growth of traffic in that period. Highways which might have anticipated the traffic in 1912 were inadequate in 1923, if only the number of automobiles was beyond their width and speed capacity. We had last year 11 times the vehicle registration which we had in 1912, the registration being 1,085,000. The auto club's report of 1920 forecast that this figure would be reached in 1926—three years later."

CENTRAL WEST

(Continued from Page 64)

southwest corner of the Elias Lewis, Section 1, pumped 10 bbls. from a depth of from 1,313 to 1,348 feet. In Marion Township, the Ohio Oil Co.'s No. 7, on the northwest corner of the I. East farm, Section 13, pumped 3 bbls.

In Logan Township, Auglaize County, the Waller Oil Co.'s No. 3, on the Mrs. Mary A. Dingeldine farm, Section 3, pumped 30 bbls. In Moulton Township, J. R. Kelley's No. 1, on the southwest corner of J. R. Julian, Section 34, pumped 18 bbls.

Mercer County Field

The Coldwater Field, in Butler Township, Mercer County, one of the new additions to the old Lima Field, is showing quite a little development work as well as working hard for a market for both oil and gas, which is assured within a short time.

The Buckeye Pipe Line Co. has finished the pipe hauling and is now erecting its high pressure pumps, and making ready to start the laying of field lines in Butler Township. The gas line is all laid to the City of Celina and all that remains to be done is connect the Lima Gas Co.'s mains and lay the field gathering lines.

Numerous leases changed hands the past week. One drilling machine moved in and another moved out. "Buck" Cole moved in a string to drill for George Lacknett, E. C. McPeran purchased the drilling machine from Coleman Brothers and moved it to Red Key, Indiana.

In Butler Township, Mercer County, the well recently drilled by O. J. McGuiggan, was the best was well that has been drilled in the field, making around 750,000 feet natural and after the shot increased to 1,250,000 feet. This well showed top of sand at 1,103 feet, about 15 feet higher than the average wells in the field. This well is in Section 31.

H. C. Craft's well No. 1 on the John Ables farm, Section 3, Butler Township, struck top of Trenton at 1,143 feet, doing 150,000 feet of gas and some oil. This well carries the field 1 mile to the south. the proven field now carries an area of 12 square miles. George Lacknett and others are drilling No. 2 McAfee farm, same section. In Section 22, O. J. McGuiggan and others have cased and almost ready to drill in No. 1 on the Ben Burkmeyer farm. E. N. Gillespie and others are starting a test on the J. H. Stiggleman farm, Section 7.

In Washington Township, the Dilbone Oil Co. is moving in a rig for a test on the George Dues farm.

In Liberty Township, Strong Brothers' second well on the F. V. Bollenbacher. Section 17, and in the southeast corner of the lease, pumped 2 bbls.

GASSER NEAR SAPULPA

The nearest well to Sapulpa, Okla. to be drilled, came in a 10,000,000-foot gasser. The well is just one-half mile southwest of the city limits, located on the leases belonging to Jimmy Sapulpa.

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OF YOUR TONG HAS TO BE PERFECT WHEN IN ANY POSITION OR UNDER ANY CONDITION TO INSURE POSITIVE ACTION AND A SAVING OF TIME.

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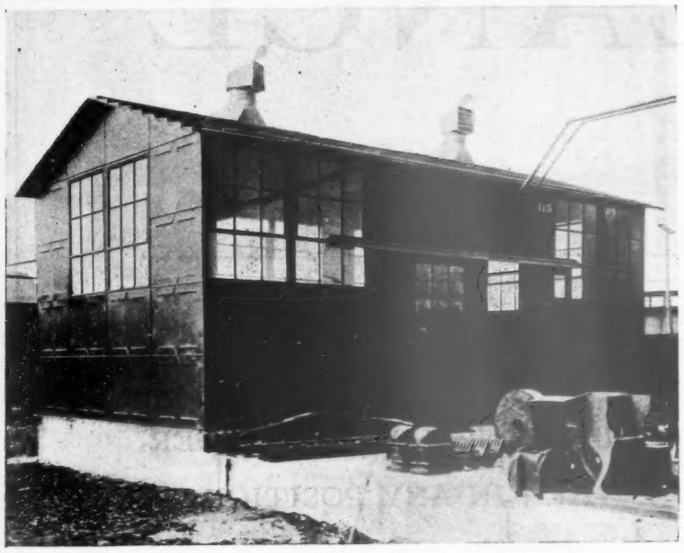

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There is as much difference in buildings as in automobiles or watches. All of them give some degree of service, but you want more than that in your buildings.

You want buildings that are tight against wind and rain and stay that way for years. Buildings which are quickly delivered and speedily erected, and when necessary may be taken down and re-erected in other locations with 100 per cent salvage—and yet are permanent and durable.

Truscon Standard Buildings give you all these things and more. They are non-combustible, giving protection against fire, but, best of all, they are made to give years of service—and do it. They are easily erected in remote places with a small working force. There is a Truscon Standard Building for any use in the oil field. Hundreds of them are in the service of oil producers, oil operators and refiners.

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NORTH CENTRAL TEXAS

(Continued from Page 90)

others' No. 5 Carter, drilling in blue shale at 1,425 feet; Whitney and others' No. 1 Krebs, drilling at 975 feet; Willis and others' No. 4 Jackson, drilling at 410 feet; the Wilmot Farm Oil Co.'s No. 6 Wilmot, drilling at 1,220 feet; Woodburn Oil Corp.'s No. 8-B Wilson, drilling at 1,820 feet; No. 10-B Wilson, drilling at 1,500 feet.

Young County

Drilling: Bashara and others' No. 1-A Graham, drilling in blue shale at 1,885 feet; Bryan and others' No. 1 Vernon, spudding; Carter and others' No. 1 Rubinkoenig, drilling in hard, black lime at 4,235 feet; Dunn and others' No. 1 Johnson, drilling at 1,350 feet; the Eagle Creek Oil Co.'s No. 1 Cheeves, coring at 1,071 feet; the Humble Oil & Refining Co.'s No. 1 Graham, drilling in rock at 2,565 feet; McLain and others' No. 1 Durham, spudding; McGarr and others' No. 1 Johnson, drilling at 2,400 feet; No. 1 Scarborough, drilling at 1,725 feet; Miller and others' No. 1 Hume, drilling in shale at 2,300 feet; O'Neal and others' No. 1 Robertson, drilling in soft rock at 1,215 feet; Reed and others' No. 1 Graham, drilling at 1,520 feet; Russell and others' No. 2 Benson, drilling in mud at 330 feet; Seaboard Oil & Gas Co.'s No. 1 Stoffers, drilling at 425 feet; States Oil Corp.'s No. 1 fee, shut down with a hole full of water at 3,730 feet; Vance and others' No. 1 Daws is shut down for casing at 1,420 feet.

Wildcats

Baylor County—Completions: Cranfill and others' No. 2 Mills, 85 bbls. at 1,435 feet.

Drilling: The Dallas Oil Co.'s No. 1 Showers, drilling at 840 feet; Hapgood and others' No. 1 Turbeville, cleaning out to bottom at 1,618 feet; the Independent Oil Co.'s No. 1 Robertson County School Land, drilling in blue shale at 1,650 feet; Magnolia Petroleum Co.'s No. 1 Mills, drilling in rock at 1,820 feet; Moore and others' No. 1 Fancer, drilling at 915 feet.

Clay County—Completions: Cumley and others' No. 1 Stine, 190 bbls. at 1,781 feet.

Drilling: Bowen and others' No. 1 Stine, drilling at 1,125 feet; Cumley and others' No. 2 Stine, drilling at 700 feet; D'Yarmett and others' No. 1 Scott, drilling at 765 feet; the Gulf Production Co.'s No. 4 Worsham, drilling in shale at 925 feet; the Knox-Finley Development Co.'s No. 1 Howell, drilling at 580 feet; the Scaling Oil Corp.'s No. 1 Scaling, fishing for tools at 2,625 feet; the Shelton Oil Co.'s No. 1 Boddy, drilling at 780 feet; the Texland Production Co.'s No. 1-B Dr. Johnson, drilling at 1,500 feet; Verschoyle and others' No. 1 Stine, drilling in rock at 1,250 feet.

Montague County—Completions: The Texon Oil Co.'s No. 1-B Crenshaw, dry at 1,240 feet.

Drilling: The Texas Co.'s No. 2-A Gist, shut down for cement to set at 647 feet; the Boyd Oil Co.'s No. 1 Salmon, shut down for a crew, estimated a 50-bbl. pumper at 900 feet; Gulf Production Co.'s No. 1 Benton, drilling in shale at 1,570 feet; the Mascho Oil Co.'s No. 1 Howard, drilling at 3,530 feet; the Montague Oil Syndicate's No. 1 Summerour, drilling in shale at 1,260 feet; the Texhoma Oil & Refining Co.'s No. 1 Boulding, drilling in rock at 1,190 feet.

Throckmorton County: The Nail-Tex Oil Co.'s No. 1 Elliott, drilling at 975 feet; the Humble Oil & Refining Co.'s No. 1 Stubblefield, drilling at 1,460 feet; Larkin and others' No. 1 Conger, estimated 20-bbl. pumper at 1,448 feet; Whatley and others' No. 1 Todd, showing 1,000,000 feet of gas and shut down at 820 feet.

Carson County: The Texas Co.'s No. 4 Burnett, drilling in lime at 2,015 feet; No. 1 Mary Burnett, set and cemented 8¼-inch casing at 2,695 feet; No. 2 Mary Burnett, fishing for 10-inch casing at 2,725 feet; the American Refining Co.'s No. 1 Burnett, swabbing 200 bbls. per day at 2,995 feet; No. 2 Burnett, fishing for drill pipe at 2,530 feet; Culberson Brothers' No. 1 Armstrong, shut down for 8-inch casing at 2,950 feet; the Dunciger Oil Co.'s No. 1 Burnett, drilling at 2,025 feet; Gulf Production Co.'s No. 1-A Burnett, drilling in salt beds at 2,125 feet; No. 4-A Burnett, drilling in shale at 2,165 feet; Greenwood and others' No. 1 Burnett, cemented 12½-inch casing at 1,300 feet; Producers & Refiners Oil Co.'s No. 1 Burnett, spudding at 100 feet; Slick and others No. 3 Burnett are fishing for drill pipe at 2,905 feet; the Skelly Oil Co.'s No. 1 Burnett, drilling at 2,390 feet.

Cottle County: Woodley and others' No. 1 Dulaney, drilling in hard lime at 2,150 feet.

Garza County: Blackwell and others' No. 1 Boren, drilling in shale at 1,550 feet; the Union Oil Co.'s No. 1 Connell, drilling in shale at 600 feet.

Gray County: The Texas Co.'s No. 1 Saunders, fishing for 6½-inch casing at 2,780 feet; the Wilcox Oil & Gas Co.'s No. 1 Combs is showing estimate 300 bbls. of oil a day production and shut down for storage at 2,925 feet; No. 1 Wilson, drilling in salt at 2,225 feet.

Hutchinson County: The Gulf Production Co.'s No. 1 Cockrell, drilling a cave at 2,000 feet; No. 1 Whitenburg, drilling in salt at 2,520 feet; the Prairie Oil & Gas Co.'s No. 1 Deahl, drilling in lime at 2,020 feet; the Tex-O-Oil Co.'s No. 1 Johnson, showing estimated 5,000,000 feet of gas and shut down at 1,165 feet; Wilson and others' No. 1 Whitenburg, drilling in lime at 2,780 feet.

Moore County: The Producers & Refiners Oil Co.'s No. 1 Masterson, drilling by 10-inch casing at 1,940 feet.

Potter County: Amarillo Oil Co.'s No. 1 Warwick, drilling in quicksand at 350 feet.

Roberts County: The Big Bend Oil Co.'s No. 1 Ledrick, drilling in red sand at 1,000 feet.

Wheeler County: Cosden and others' No. 1 George, drilling in hard lime at 2,580 feet; Tyrell and others' No. 1 Sheldon, plugging to abandon at 2,132 feet; the Union Petroleum Co.'s No. 1 Nicholson, drilling at 810 feet; Woodley and others' No. 1 Bowers, drilling in blue shale at 1,700 feet.

RISE OF CALIFORNIA PETROLEUM INDUSTRY

(Continued from Page 70)

one of the real contributions to the technical advancement of the California petroleum industry. This process not alone cracks such charging stocks as California kerosene into more than 50 per cent gasoline but also high coke forming oils, such as gas and heavy fuel oil into more than 35 per cent gasoline.

The Dubbs process is now cracking commercially, per unit, more than 1,100 bbls. per day of Long Beach residue of 18 Baume gravity, into more than 35 per cent Navy specification gasoline. The yield of gasoline of 35 per cent is based upon passing the charging stock through the apparatus just once. The process is simple in principle, construction and in operation.

During the year 1923, 4,099,279,251 gallons of gas oil and fuel oil were produced. This quantity of high coke forming oils under heat and pressure conditions could have been cracked commercially into more than 35 per cent of gasoline. Had this been done, there would have been added to the gasoline supply 1,434,757,773 gallons, a greater yield of commercial gasoline than was obtained during the year from the refining of the 6,347,310,468 gallons of crude oil run through the stills in California. The total yield of gasoline would have been over 40 per cent of the crude oil refined, had the Dubbs process been used to crack all of this gas and fuel oil produced during the year instead of the 20 per cent gasoline actually obtained. California would then have produced over 35 per cent of the total gasoline produced in the United States during the year 1923 instead of the 17 per cent which it did produce or an increase of over 100 per cent of the California gasoline production.

The Proof of Popularity

The old saying was: "Don't buy a book by its cover!"

But millions of readers who pause at the news stands do that very thing. That is the reason for the girl on the front page. She is the bid of the magazine publisher for the great reading public which saunters by and looks them over. She is the unspoken recognition that the test of magazine popularity is news stand sales.

She attracts attention, but the magazine itself must be good enough to hold it. There are other publications which, having built up their reputation for worth and interest, stick to the same cover the year round until it has the inviting familiarity of an old friend.

The Oil and Gas Journal is conspicuous on every news stand by its distinctive color and quality. It is significant that, displayed on the stands among all sorts of trade publications, including those purporting to deal with oil, the news stand sales of The Oil and Gas Journal are more than those of all other petroleum publications combined.

Oil men are a roving class, here today and gone tomorrow, as their work requires. Those of more permanent location, of course, subscribe for The Oil and Gas Journal and have it delivered at their offices or homes. But there is a great mass of oil men who, never knowing where their work may call them, are anxious to get their paper as promptly as possible and prefer to buy The Oil and Gas Journal at the news stand wherever they may happen to be.

The preference of these news stand buyers for The Oil and Gas Journal is a compliment fully appreciated. With the opportunity to "look them over" and pick whatever publication dealing with oil appears on the stand a clear majority of these readers selects The Oil and Gas Journal.

There must be a reason for this overwhelming preference. It is no accidental record; it has run year after year and continues unfailingly. Some of these news stand readers have been kind enough to furnish the explanation, in personal calls when in the Oil Capital, or by friendly letters from far off fields.

They confess their particular interest in The Oil and Gas Journal because it tells them what they want to know, the news of the entire industry, the facts and figures, (and they make special mention of their confidence in the reliability of The Oil and Gas Journal), the always interesting and informing articles in each issue, descriptive, technical or timely, lighting up some phase of the business, or charting the way for the producer, refiner or distributor.

So, despite the old adage, they always feel safe in buying "the Big Yellow Book" by its cover.

The Oil and Gas Journal ORDER BLANK

Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for..... year. Enclosed find remittance $.....

Classify my interests as checked by me

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U. S. or Mexico	
One Year	$6.00
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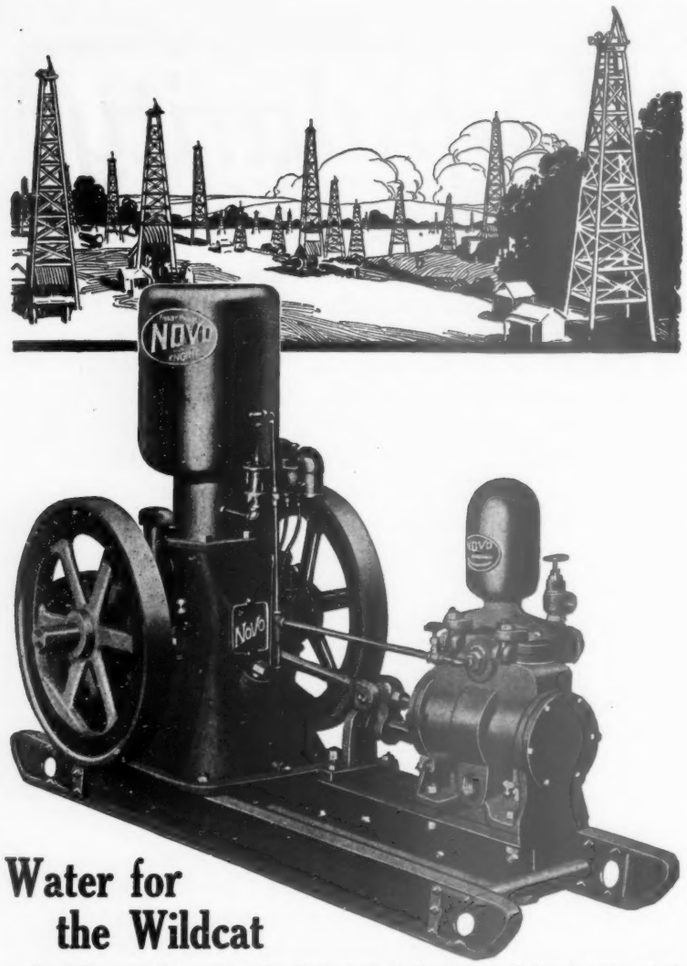

Water for the Wildcat

Up in the mountains—out on the plains—even in the desert. If there's water within miles a Novo Type "U" Pump will bring it to you.

Novo Type "U" pumps are built for pressures up to 500 pounds. They'll deliver water anywhere that this pressure will reach. They'll do it 24 hours a day, week in and week out.

You oil men who are tired of the cost and trouble of steam pump operation—here's an end to your troubles. The pump itself on a Type "U" is the same as that driven by steam engines. The power is **Novo Power**, and that means power that is as constant as steam; power that never quits. The Type "U" outfit weighs less than half as much as a steam outfit, costs only about half and operates with a tenth of the attention. If you have never learned by experience of their economy we have an interesting story to tell. Get in touch with us.

The Novo line includes engines, hoists, pumps and compressors of many sizes, types and capacities. Novo reliability will save you time, trouble and money. Consult us on any power problem.

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NOVO POWER

(28)

Keeps Operations Moving

DETAILED OPERATIONS IN WESTERN FIELDS FOR MONTH OF JULY, 1924

SUMMARY OF ALL FIELDS

Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Eastern	408	1,576	56	56
Lima	65	1,030	3	6
Indiana	13	122	3	0
Central Ohio	37	170	6	23
Kentucky	168	2,595	41	3
Tennessee	7	4	5	0
Mississippi	3	0	3	0
Illinois	15	457	2	2
Kansas	144	9,253	21	5
Oklahoma	424	109,454	118	24
N. Central Texas	313	15,210	122	10
E. Central Texas	54	19,526	11	1
Louisiana-Arkansas	182	28,035	33	14
Gulf Coast and S. W. Texas	159	46,824	39	6
Wyoming	80	13,760	6	2
Montana	26	6,200	12	0
Colorado	2	50	0	1
Total July	2,100	254,266	491	153
Total June	2,081	225,631	461	187
Difference	19	28,635	30	34

Rigs and Wells Drilling

Field—	Rigs	Drg.	Ttl.
Eastern	167	477	644
Lima	11	74	85
Indiana	1	18	19
Central Ohio	38	88	126
Kentucky	19	214	233
Tennessee	3	12	15
Alabama	0	11	11
Georgia	1	4	5
Illinois	4	30	34
Kansas	72	256	328
Oklahoma	253	1,252	1,505
N. Central Texas	71	293	364
E. Central Texas	23	86	109
Louisiana-Arkansas	62	332	394
Gulf Coast and S. W. Texas	164	580	744
Wyoming	108	295	403
Montana	20	123	143
Colorado	8	39	47
Utah	1	25	26
New Mexico	2	12	14
Total July	1,028	4,221	5,249
Total June	1,126	4,378	5,504
Difference	98	157	255

Note.—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. The rigs and wells drilling are set forth in similar manner. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above.

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Washington-Nowata-Rogers	24	439	6	0
Osage	108	30,366	25	2
Tulsa	16	3,140	8	0
Okmulgee	30	1,755	10	4
Okfuskee-Hughes-Seminole-McIntosh	44	33,425	9	4
Muskogee-Wagoner	34	448	18	2
Creek	42	13,088	7	1
Pawnee	10	550	3	1
Payne	1	198	0	0
Kay	9	3,118	1	1
Garfield-Noble	16	3,495	1	0
Carter	39	3,612	8	4
Stephens-Cotton	18	72	8	3
Miscellaneous	33	15,748	14	2
Total July	424	109,454	118	24
Total June	514	111,884	126	38
Difference	90	2,430	8	14

Summary of New Operations

County—	Rigs	Drg.	Ttl.
Washington-Nowata-Rogers	0	9	9
Osage	37	145	182
Tulsa	13	50	63
Okmulgee	20	80	100
Okfuskee-Hughes-Seminole-McIntosh	55	206	261
Muskogee-Wagoner	14	45	59
Creek	32	129	161
Pawnee	10	45	55
Payne	3	17	20
Kay	7	87	94
Garfield-Noble	14	65	79
Carter	15	108	123
Stephens-Cotton	4	42	46
Miscellaneous	29	233	262
Total July	253	1,252	1,505
Total June	246	1,205	1,451
Difference	7	47	54

WELLS COMPLETED

WASHINGTON COUNTY

20-26-13 John Stern, K. L. Wickett 3.. 10
3-25-13 Langbone, Ruth Fuel 3 10
32-28-13 Parker, Holm, Combs & Chapman 1 5
22-29-12 Boren, Ramsey Pet. 4 275
32-28-13 Thompson, Sadie Foster 4.... 5
29-28-13 Washington, Davis & Staffer 32 25
15-29-12 Dewall, Ramsey Petroleum 1.. dry
19-28-13 Lynch, D. M. Tyler 3 2
17-26-14 Miles Byrn, D. N. Lyles 2 ... 2
19-26-13 Tatum, H. O. Dixon 4 6
Tatum, H. O. Dixon 5 6
28-28-14 Reese, Maxwell-Thompson 5.. 5
27-28-14 Hopping, Liberty Oil & Gas 6 15

NOWATA COUNTY

24-27-16 Connor, M. B. Shufflin 15 .... dry
27-28-14 Letson, Lambert O. & G. 9.... 5
4-28-14 Winkler, A. W. Hepworth 1... dry
27-26-15 Krows, J. A. Stager 2 15
27-26-15 Kreider, Franklin O. & D. 7.. 25
Krows, J. A. Stagger 3 15

ROGERS COUNTY

12-23-16 Dennenberg, N. B. Dennenberg 1 ..... dry
30-22-16 Eaton, Oklahoma Natural Gas 1 10
5-24-17 Wiser Oil, Bradnsiking O. & G. 31 3
14-23-15 Taylor, Pouder & Pomeroy 2.. dry
31-29-17 Morrison, Heffler et al 1.... dry

Wells completed	24
Production	439
Dry	4
Gas	0

OSAGE COUNTY

11-27- 5 Gypsy Oil 8 3000
13-27- 5 Prairie O. & G. 9 550
Prairie O. & G. 13 300
14-27- 5 Midland Oil et al 10 102
Midland Oil et al 11 120
Midland Oil et al 13 275
Cosden O. & G. 4 127
Cosden O. & G. 10 218
Cosden O. & G. 13 100
Cosden O. & G. 14 40
Cosden O. & G. 10 250
26-27- 5 Phillips Pet. 11 193
Mid-Kansas O. & G. 2 80
Mid-Kansas O. & G. 3 75
Mid-Kansas O. & G. 4 100
18-27- 6 Twin State Oil 9 200
Twin State Oil 15 75
Twin State Oil 16 275
27-25- 8 Atlantic O. & P. 4 ..... dry
28-25- 8 E. B. Lawson 6 30
10-25- 9 Pawhuska O. & G. 11 ..... dry
15-24- 8 Marland Ref. et al 2 5
16-24- 8 Marland Ref. et al 3 ..... dry
32-24- 9 A. G. Oliphant 3 7
33-24- 9 Amerada Pet. Corp. et al 2... dry
3-23- 8 Superior Oil et al 2 880
20-23- 8 Marland Ref. 8-A 40
28-23- 8 Marland Ref. et al 1 ..... dry
26-23-10 Rex Pyramid Oil 2 3
2-22- 7 Marland Ref. 1 ..... dry
27-22-10 Tidal-Osage Oil 16 4
32-22-10 Tidal-Osage Oil 19 ..... dry
5-22-11 Winona Oil 2 ..... gas
20-22-11 Perram et al 1 ..... dry
22-21-11 Peters Pet. 1 ..... dry
5-21-12 C. W. Titus 1 ..... dry
15-21-12 Wood Oil et al 6 5
32-21-12 Barnsdall Oil 18 5
4-20-12 Barnsdall Oil 12 135
11-27- 5 Phillips Pet. 15 1000
13-27- 5 Prairie O. & G. 14 100
Midland Oil 15 417
14-27- 5 Midland Oil et al 5 73
Cosden O. & G. 5 40
Cosden O. & G. 8 850
19-27- 6 Gypsy Oil 14 15
20-27- 6 Phillips Pet. 7 40
24-26- 8 Mutual Oil 1 ..... dry
33-26- 8 Marland Ref. 1 ..... dry
3-25- 8 Sinclair O. & G. 3 35
34-25-11 Devonian Oil 5 60
5-25-12 Forty-five Oil 36 30
32-25-12 Tex. C. Oil et al 3 ..... dry
22-24- 9 The Texas Co. 2 35
20-23- 8 Marland Ref. 10-A 45
8-23-10 Wiser Oil 1 ..... dry
13-23-10 American O. & D. 17 15
1-22-10 Mutual Oil 2 ..... dry
23-21-10 Markham et al 7 225
29-21-12 Barnsdall Oil 18 ..... dry
28-20-11 Imler et al 2 135
9-20-12 Barnsdall Oil 25 80
3-27- 5 Gypsy Oil 4 25
14-27- 5 Cosden O. & G. 6 250
25-27- 5 Phillips Pet. et al 2 200
26-27- 5 Phillips Pet. 6 5
18-27- 6 Twin State Oil 8 300
20-27- 6 Phillips Pet. 2 150
Phillips Pet. 3 150
Phillips Pet. 4 150
17-26- 6 Cosden O. & G. 4 500
34-25-11 Devonian Oil 6 70
15-24- 8 Carter Oil 1 ..... abd
27-24-10 Winona Oil 2 20
20-23- 8 Red Bank Oil 2 200
29-22-10 Winona Oil et al 17 ..... dry
26-21- 9 Gypsy Oil 2 ..... dry
27-21- 9 Kilgore et al 3 ..... dry
16-21-12 Tidal Oil 5 5
31-21-12 Barnsdall Oil 23 145
32-21-12 Barnsdall Oil 16 4300
6-20-12 Grimes & Gillespie 8 80
17-20-12 Devonian Oil 8 3
29-20-12 Westland-Kennedy et al 1 7
15-29- 9 Wah-Shah-She Oil 47 150
27-29-11 Beacon Oil 1 ..... dry
Wiser Oil 5 15
35-29-11 Barnsdall Oil 38 15
16-29-12 Superior Oil 1 ..... dry
Superior Oil 2 ..... abd
11-27- 5 Phillips Pet. 6 400
13-27- 5 Prairie O. & G. 15 400
26-27- 5 Skelly Oil 1 100
15-27-10 Barnsdall Oil 2 ..... dry
16-27-10 Barnsdall Oil 2 ..... dry
16-26- 8 Morris, Carter Oil 11 600
21-25- 8 Mid-Kansas Oil & Gas 1 4000
27-25- 8 Delmar Oil 1 37
29-25- 8 Lewis Oil 1 75
5-25-12 45 Oil 37 50
20-23- 8 Marland Ref. 9 7900
29-23- 8 Marland Ref. 2 15
17-23-11 Minderman & Marshall 8 .... dry
18-21-10 Knupp et al 2 50
23-21-10 Markham et al 8 375
32-12-21 Barnsdall Oil 19 5
5-20-11 Pioneer Pet. 2 35
28-20-12 Mutual Oil 8 200

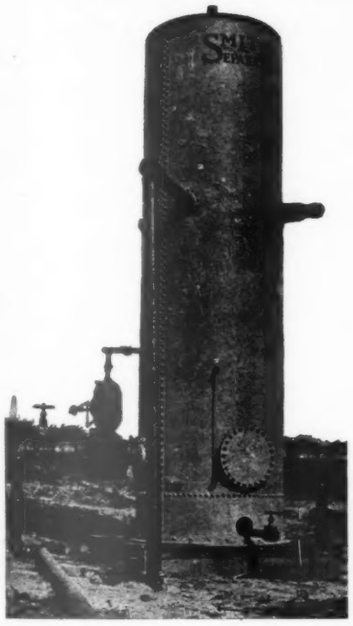
Wells completed	108
Production	30,366
Dry	25
Gas	3

TULSA COUNTY

8-19-12 Yargee, Morgan & Hancock 1-A 600
Caldwell & Sons 1 675
8-16-13 Bertholf, Supes & Abbott 1-A. dry
25-19-11 Doris, Sand Springs Home 2.. dry
9-18-13 Franklin, Upp et al 2 25
16-18-13 Perkins, Vick et al 7 5
6-16-13 Cowles, Superior Oil 2 ..... dry
15-19-10 Island, Nelson O. & G. 3..... dry
22-19-11 Russell, Minshall & Sweeney 6 dry
5-19-12 Partridge, Thompson & Black 1-A 1500
11-18-13 Simons, Newbrough & Hazen 1 dry
1-17-14 McHenry, Frates Oil 1 100
29-21-13 Turner, Corbin & Haver 5 15
16-21-13 Viola Flowers, Middleton et al 1 ..... dry

(Continued on Page 150)

SMITH OIL AND GAS SEPARATOR



"One of many at Cromwell"

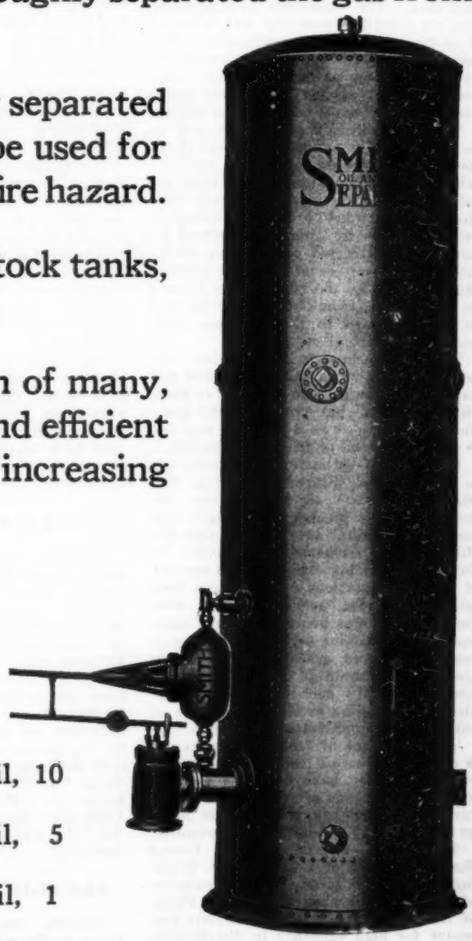
The illustration at the left shows an installation of a Smith Oil and Gas Separator Type No. 1, on the Epely lease —Sec. 15, T. 10, R. 8 of the Snowden and McSweeney Company.

This Separator has been on the job for several months during which time it has thoroughly separated the gas from the oil.

The gas has been efficiently separated from the oil, permitting it to be used for fuel as well as eliminating the fire hazard.

The oil is delivered to the stock tanks, entirely free of gas.

This is just one installation of many, giving at all times complete and efficient separation and incidentally increasing the earnings of the lease.



Type 1 and 2 (Patented)

The Smith Separator is made in the following sizes:

Type 1—Capacity 5,000 bbls. oil, 10 million cu. ft. gas.
Type 2—Capacity 2,000 bbls. oil, 5 million cu. ft. gas.
Type 3—Capacity 500 bbls. oil, 1 million cu. ft. gas.

Type 3 (Patented)

SMITH SEPARATOR COMPANY

Chestnut & Smith Corp. Bldg. **TULSA, OKLA.** Phone Osage 6220

Export Representative: Oil Field Equipment Co., 30 Church St., N. Y.
Cable Address: "Oilfield," New York

California Office, 821 Haas Bldg., Los Angeles, Calif.

REFINING AND MARKETING

Self Serve Gasoline Stations Suggested to Reduce Prices

By Lincoln T. Bradley

Next—the gasoline cafeteria!

Can you imagine the motorist driving up to a filling station or garage, inserting a dollar or so in a slot, filling his gasoline tank, replacing the hose and tank cap, and driving away again without aid from an attendant, or indeed, without an attendant's presence?

If you can't you had better brush up your imagination, because there is some little indication motorists within a short time will be doing that very thing. Bosh? That's what they said about the first food cafeteria, but the many descendents of that original cafeteria today are doing an enormous volume of business throughout the United States.

The gasoline cafeteria proposal looks stronger than it otherwise might because it has a respectable backing. It has been advanced in the interest of lower gasoline prices and no less an authority than a special committee of the State of Massachusetts, appointed by the Governor, to investigate the cost of commodities used in everyday life, such as food, clothing, and fuel. The committee held gasoline was an everyday necessity and included it in the range of its investigation. The soundness of what is proposed remains to be tested. One thing is certain, however; the very novelty of the idea would attract considerable trade at the outset.

The proposal may perhaps be said to be economically sound. It appears to lie within the field of "mass selling," which has been so attractive in large retail enterprises recently. The mass sales theory has been held to be the ultimate in retail business by numerous authorities, and it has attracted considerable attention merely because of one fact alone—that it increases the efficiency or is said to do so, of distribution, and would tend to keep the cost to the consumer more nearly the original cost.

The Massachusetts commission admitted frankly it was unable to "find any panacea for the present evils of the gasoline business," but put forth the gasoline cafeteria idea as a possible way out in decreasing the costs of distribution.

It has been estimated that there are in the United States something like 50,000 "drive-in" service stations, exclusive of the number of garages and curb-pump stations at which gasoline and oils may be purchased, the number of the latter probably exceeding the number of "drive-in" stations. These have been established overa period of year, with the latter stations being built on a more and more attractive scale, and with natural beauty and ever-improving service always in the mind of the owners. Naturally, then, any such novel and unique idea as a gasoline cafeteria would be of only gradual approval and adoption.

The complaint of "too many stations" is chronic in the oil trade. The last two years especially have seen the erection of many thousands of stations which the casual observer has criticized as being unwarranted by the outlook for business.

The recent meeting of the United States Chamber of Commerce at Washington was the scene of a presentation of mass selling, when Edward A. Filene of Boston declared it was ultimately necessary for high efficiency in distribution. He pointed out the wastes in present selling methods of various commodities. Those who have held that we are heading for the "automatic age" doubtless will give ear to the new idea for oil products distribution.

The application of the self-serve system to motor oil would be more difficult of attainment, but it is apparent the realization of that goal would not be altogether impossible. The saving in the salaries of station attendants would be the guiding idea back of the gasoline cafeteria principle. Passed on to the consumer in lowered gasoline prices it is of course uncertain as to just what percentage of saving could be affected.

Another proposal of the Massachusetts committee, which doubtless will awaken more discussion than the self-serve proposal is the scheme that service stations should abandon the giving of all free service to motorists, and that the reduction in costs to the stations could be cut from the prices of the oil products.

OMAHA'S CITY STATION, LOSING MONEY, CLOSES

OMAHA, Neb., Aug. 11.—Omaha's municipal gasoline station, opened a few months ago to precipitate a gasoline "war" that has finally brought the local price at filling stations to as low as 10.9 cents, gave up the ghost this week and closed. City Commissioner Hopkins, who opened the station, admitted it could not longer run without a loss.

It is the second station run by "independents" to close in the long fight. One other ended business when the Standard, Sinclair and Manhattan Oil Companies brought their filling station price down to 13 cents a gallon.

The survivor of the war, H. M. Michel, in announcing a cut to 10.9 cents, the lowest price gasoline has ever been sold at in Omaha, issued a public appeal for support lest the so-called "Big Three" combination force him, too, out of business.

Meanwhile, the "15-cent Gasoline League," organized by Dr. F. J. Despecher, a local dentist, when gasoline was selling at 22 cents, has announced it will continue its effort to find a new independent dealer who will sell below the big organization's price. It is also urging Commissioner Hopkins to sell fuel oil distillate this winter, in order to keep down its price when oil burning furnaces are fired up.

The municipal station which closed shows a paper profit of $3,500, but it is pointed out that it had no expense for rent, taxes, employes or other usual overhead charges, as a city fire station was used as a place to sell the gas, and city firemen were pressed into service as filling station attendants.

TEXAS GASOLINE SALES

AUSTIN, Texas, Aug. 9.—Texas motorists bought 31,565,000 gallons of gasoline in June, breaking all records for gasoline consumption. May records showed 29,000,000 gallons were consumed. At 1 cent per gallon tax, the State gets $315,650 from June consumption. The legislature estimated the annual revenue from this source would amount to about $3,000,000 annually or an average of $250,000 per month. The largest sales by companies were reported as follows: Gulf Refining Co., 8,050.533 gallons; The Texas Co., 5,880,761; Humble Oil & Refining Co., 1,453,142; Cities Service Co., 1,436,314; Magnolia Petroleum Co., 5,799,742; and Pierce Petroleum Corp., 2,640,382.

LUB PLANT FOR WOOD RIVER

Reports that the Roxana Petroleum Corp. would spend $1,000,000 in making its Wood River, Ill., a complete refinery through the addition of a modern lubricating plant have been given credence by Mid-Continent refiners. Plans for the new plant call for construction to start in September, and the completion of the plant is set for the spring of 1925. The Standard Oil Co., (Indiana) is also reported constructing a lubricating plant at its Wood River refinery.

CHANGES IN CHICAGO REFINERY OFFICIALS

CHICAGO, Aug. 11.—A. C. Turner who has been in charge of the St. Louis office of The Texas Co., has been transferred to Chicago as assistant superintendent of the Chicago office following the advancement of "Sid" Wright to the superintendency, after the retirement of Harry Snell.

George L. Bodie, manager of the western division of the Fred G. Clark Co. of Cleveland, Ohio, has resigned effective August 1, and has been succeeded by Bruce E. Byers of the Cleveland office. Mr. Bodie has been with the Clark Co. for nine years. As manager of the Chicago division he had charge of the business west of Ohio with branch offices under his control at Minneapolis, Kansas City, and Lincoln Neb. His friends in the trade intimate that he may be made head of a new organization. Other recent changes in the Clark organization include the resignation of H. B. Holt, manager of the Buffalo office and Gus J. Steigerwald from the Cleveland division. Mr. Byers, who succeeds Mr. Bodie, has been with the Clark organization for eight years and was formerly connected with the Chicago office but more recently has been located at Cleveland. The reported changes affecting many of the Departments of the Sinclair Refining Co. became effective Saturday. For the present, at least, Sheldon Clarke, vice president, will retain his offices in Chicago.

The liability and purchasing departments of the Sinclair Refining Co., will also remain in the Conway Building, All other offices retained in Chicago are transferred to the building owned by the company at Twenty-second and Rockwell streets, which has been the headquarters of the city department.

J. M. Woodruff is in charge of tank car sales in the western division with headquarters at Twenty-second and Rockwell streets, Chicago. The legal, traffic and general accounting departments are now at the New York office. No disposition is announced regarding the large office space formerly occupied in the Conway Building, Chicago, but it is assumed much of it will be subleased.

The report of numerous changes and resignations at the office of the Indian Refinery at Lawrenceville, Ill., have caused so much comment that an official statement has been issued. B. H. Anglin will continue at the head of the sales department and A. H. White has been appointed to the position of assistant general sales manager. Other changes are as follows: L. L. Niedrach has been made manager of station sales; P. H. Leake, manager of service station sales; C. H. Reilly, in charge of sales of Havoline oils; R. D. McDorman, in charge of tank car sales; and F. W. Silva, in charge of refined oil sales. C. F. W. Dillaway, treasurer, and A. B. Kent, advertising manager, have resigned. It has been reported that many employes who were transferred from New York City to Lawrenceville late last year have returned to New York City.

BARNSDALL REFINING BUYS MORE TANK CARS

The Barnsdall Refining Co., a subsidiary of the Barnsdall Corp., has just placed an order with the Pennsylvania Tank Car Co., of Sharon, Pa., for fifty 8,000-gallon, type A-1-A tank cars, to be delivered at the refinery during the month of September. With these 50 additional cars, the Barnsdall Refining Co. will have 521 tank cars in its fleet to move the products from its 5,000-bbl. complete refinery at Barnsdall, Okla.

The Barnsdall Refining Co. recently completed a 35-mile pipe line to its refinery from the Barnsdall Oil Co.'s producing properties, north of Tulsa. In the distributing end of the business the forty-seventh bulk station was placed in operation a few days ago. All of the distributing stations are located in Eastern Kansas and Western Missouri. It also has in operation 35 drive-in filling stations.

Besides the large domestic business carried on by the Barnsdall Refining Co. it is constantly shipping for export through the ports of New Orleans and Mobile a considerable quantity of lubricating oils to France, Belgium and South America. The Barnsdall Corp. is one of the Mid-Continent companies engaged in all branches of the petroleum industry.

NEW COMPANY TO BE MID-CONTINENT BUYER

NEW YORK, Aug. 9.—The Refiners Petroleum Co., formed by A. C. Woodman in copartnership with C. H. Longshore, will be developed along the same lines as those used by Mr. Woodman in building up the old Union Petroleum Co., it is understood. Before being taken over by the Sinclair Consolidated Oil Corp. the Union Petroleum Co. was one of the largest marketing organizations dealing direct with and to the trade, and it had built up a big export trade. It purchased heavily in the Mid-Continent. The Refiners Petroleum Co. will also be a large purchaser of Mid-Continent refined products, it is understood. The company will market to the trade only, all products in packages, carloads or cargoes.

The personnel of the Refiners Petroleum Co. reads like an old Union Petroleum Co. roster. It includes John K. Garrigues, treasurer and secretary; New York; Edward Bush, handling lubricants and light oils, New York; H. D. Hagadorn, lubricants and light oils, Olean, N. Y.; W. H. Henszey, Pacific Coast sales, San Francisco, and Henri I. Grandgerard, European representative, Paris. All were associated with the old Union Petroleum Co. and more recently with the Sinclair Consolidated Oil Corp.

Main offices of the Refiners Petroleum Co. are at 17 Battery Place, New York, N. Y.

CALIFORNIA EXPORT BUYING

LOS ANGELES, Cal., Aug. 9.—Gasoline speculators are buying up available stocks of motor fuel for export purposes, according to current reports. The speculators secure options from the smaller refiners and when they have obtained a sufficient amount for a cargo, they approach the larger companies and exporters with their available supplies. Few cargoes have been secured by this route, however.

FUEL OIL FOR NAVY

LOS ANGELES, Cal., Aug. 9.—The Pan American Petroleum & Transport Corp. continues to send out fuel oil for the United States Navy from San Pedro, recently dispatching two tankers. Other tankers will be sent out soon. The Pan American has also resumed shipments to the Atlantic Coast by way of the Panama Canal. The tankers have a capacity of 75,000 to 90,000 bbls. each.

OIL SHALE LUBRICANTS

RENO, Nev., Aug. 9.—Lubricating oil manufactured by the Catlin Shale Products Co., of Elko, Nev., is to be used by the motor vehicles of the various departments of the State of Nevada. This concern has developed a large tonnage of oil shale near its plant and recently installed electric drills for mining the shale. Paraffin wax and fuel oil also are produced at the plant.

Gasoline made by the Dubbs Cracking Process can withstand any price war, from those who are using other methods, and leave the refiner who operates the Dubbs Cracking Process, a good store of financial ammunition after the battle is over

Universal Oil Products Company
Owners of the Dubbs Process
312 South Michigan Ave
Chicago Illinois

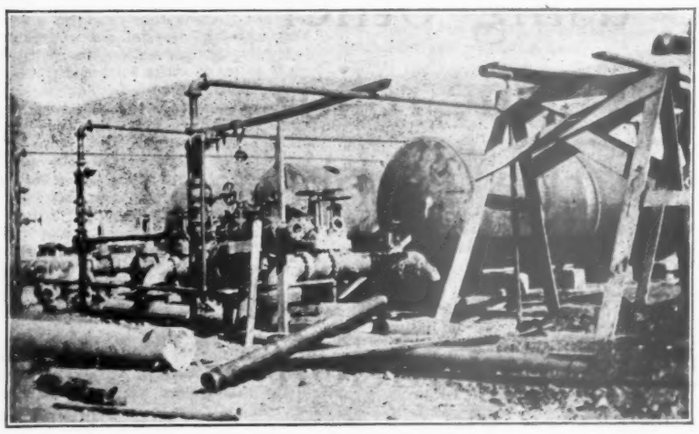
Charcoal Absorption Plant Process

Utilizes Residue Gas From the Oil Absorption Plant in Ibex Pool, Texas, Forced Through System Under Well Pressure

By Ralph T. Baker

The completion of the new charcoal absorption plant for the Landreth Gasoline Co., in the Ibex Pool, Shackelford County, Texas, is a matter of considerable interest to the manufacturers of natural gasoline and engineers who have done much in recent years for the upbuilding of the oil industry.

Construction on the oil absorption plant for the Landreth Gasoline Co. was finished about one year ago. The Landreth plant has been treating approximately 55,000,000 feet of gas daily. Of this amount, about 50,000,000 feet has been forced through the plant on well pressure, averaging about 90 pounds on the absorbers. The remaining gas is being handled by five 165-horse power gas engines belted to 16x16-inch compressors, which compress the gas to 50 pounds pressure. An expander has been used also.



Three horizontal charcoal absorbers.

No Pipe Coils Used

One of the interesting features of the Landreth plant is the fact that it has been using the Sterling sections, made by the American Radiator Co., for cooling oil, vapors, gas, and finally the charcoal gasoline vapors from the recently completed addition. No pipe coils are used in the cooling work

The gas which is admitted to the oil absorption plant tests about 0.6 gallons of gasoline per 1,000 feet. The vapors are absorbed in nine vertical absorbers, acting in parallel, measuring 42 inches by 60 feet. Five horizontal shell stills, of the combination fire and steam type, measuring 4 by 40 feet, are used to strip the gasoline from the circulating oil. The knockout box is the multitubular vertical type. Heat exchange between the hot and cold oil is secured by means of the Hildebrandt heat exchangers, of which there are 24, and 10 multitubular horizontal exchangers, made by inserting 16 1-inch pipes inside of a 12½-inch section of casing. Eight 40-horse power boilers are used for steam, part of which are supplying steam to the charcoal plant.

Residue gas, forced through the plant under well pressure, is used to drive four 12x6x12-inch duplex pumps which circulate the oil. Four centrifugal pumps circulate the water. This large plant is being operated by R. C. Alden, superintendent, and Ed Utsinger, assistant superintendent The Landreth Gasoline Co. is controlled by E. A. Landreth and Will Landreth, Texas oil producers, who developed the Ibex Pool, where the plant is situated.

The new charcoal plant utilizes the residue gas from the oil absorption plant, which has been forced through the system under well pressure. Tests show that it contains about 0.1 gallon per 1,000 feet commercial gasoline Installation of the charcoal plant has been instrumental in an increased recovery of gasoline and hence has increased the revenue of the company.

Residue gas is directed through a 14-inch line through two 8x30-foot horizontal scrubbers to cleanse the gas of the mineral seal oil which might have been carried over from the oil absorption process. The line is then reduced to 10-inch and the gas is admitted in turn to one of three horizontal charcoal absorbers measuring 7x22 feet each. Forty thousand pounds of charcoal were used in filling the three absorbers.

The absorbers are at present operated on one-hour cycles. One absorber is always absorbing vapors from the gas, another is being denuded of gasoline by passing steam through it and the third one is being cooled for another charge of rich gas. Each phase of the operation passes from one absorber to another in rotation. Residue gas from the absorbing absorber is used to cool the absorber that has just been distilled and so on, throughout the cycle. Gas during absorption passes upward through the absorbers and the steam in distillation passes downward. Vapors consisting of a mixture of gasoline and steam are condensed and the water and gasoline are then separated in a separator tank. Saturated steam at a temperature of about 240 degrees is used for distillation. The charcoal gasoline has a recovery of 91-93 per cent, end point of 265 degrees Fahrenheit and a gravity of 88 degrees Baume.

Origin of the Process

The proposition of using charcoal for the recovery of gasoline from casinghead and natural gas is one which has received considerable attention since the first interest was aroused in its commercial possibilities by George A. Burrell and George G. Oberfell, shortly after the conclusion of the World War. The patents on the process, which were granted these two men, were turned over to the Gasoline Recovery Corp., which spent considerable time and money in additional work and in developing the idea and giving it a commercial and economical application. Several Mid-Continent gasoline plant engineers believe that future development in gasoline plant operation will involve utilization of the charcoal process.

The absorbing medium in the charcoal process is charcoal made from cocoanut shells reduced to granules the size of coarse ground coffee. The charcoal is subjected to an expensive treatment, called activation, before it can be used. Activation renders it capable of absorbing and retaining vapors amounting to 10 to 20 per cent of its own weight.

In preparation of the charcoal, the shells are first submitted to dry distillation in closed retorts. Part of the volatile matter is driven off by this means. The ordinary or inactive charcoal produced at this stage of the process is then subjected to steam treatment at about 850 degrees Centigrade in a special furnace. This treatment removes the organic material from the charcoal. The degree of activation depends upon the efficacy of this treatment.

Preparing the Charcoal

In describing the preparation of charcoal for absorption of gasoline vapors, Mr. Oberfell says: "During the World War a testing method was developed for grading charcoals with respect to their absorption values. In testing the charcoals chlorpicrin vapor and air were passed through the charcoal under specified test condition, determining the length of time, expressed in minutes, necessary for the given amount of charcoal to completely remove the chlorpicrin vapor. In this way the terms "40-minute and 50-minute charcoal" originated. Chlorpicrin was a poison gas used in warfare, and the degree of absorption, when applied to the gas masks of our soldiers, gave a relative estimation of the length of time the charcoal in the masks would safely absorb the poisonous gases."

No shortage in cocoanut shells is expected to cause trouble to operators of the charcoal process as statistics from governmental sources show that one year's supply of cocoanut shells would be sufficient to supply the demand for enough charcoal to produce over 1,000,000 gallons of charcoal gasoline daily.

Due to the activation, each grain of the charcoal has innumerable deep pores. Every pore, or capillary, acts as a sponge in absorbing the gasoline vapors from the gas. When the pores are filled with the vapors, steam is brought into play and the heat and action of the steam cleanses the pores of the gasoline. Activated charcoal may be used over an unlimited period by alternating the absorbers, and the charcoal has a greater power for attracting the gasoline vapors after a period of use, according to plant operators and engineers familiar with its peculiarities.

Charcoal Selective

Charcoal is favored by many manufacturers because of its selective ability. As at the Landreth plant, while one absorber is being steamed, the other two are having gas passed through them. They are operated in series, the first absorber acting as the main absorber while the denuded gas is being used to drive out the steam from the charcoal in the second absorber, cooling it meanwhile.

At the beginning of the absorption process in the first absorber, the charcoal attracted and held the very light vapors, loading the pores quickly, after which the lighter vapors were gradually replaced by the more stable ones. One hour is considered enough for completing the load of heavy vapors sufficient for the production of gasoline as specified. Lengthening the time of absorption would give gasoline of a lower gravity, while shortening the time of absorption would give gasoline of higher gravity.

Operation of the charcoal plant is extraordinarily simple. Correct observation of the time for the completion of the cycles and judicious valve manipulation while changing the absorbers from the gas stream to the steam or cooling gas stream forms the bulk of the labor for the operators.

Careful attention must be given these details, however, and for this reason a "policeman" chart is installed on the instrument boards, so that the superintendents are given a complete and accurate record of the temperature of the vapors leaving the absorbers. They are thus enabled to observe the speed and regularity with which the changes are made and they are given a permanent record in black and white showing the faithfulness of the plant operators to their duties. Relief valves are placed in the gas line, so that shutting a valve against the pressure would result in loss of gas only, without blowing up the line or injuring the equipment.

Absorbers and coil pit, showing connections.

(Continued on Page 112)

HI-STEEL FITTINGS

Hi-Steel return bend being tested to 2500 lbs. cold oil pressure. All Hi-Steel fittings for the Cross Cracknig process must hold a pressure of 2000 lbs. for 5 minutes. Hi-Steel fittings made of electric steeel must all stand a pressure test without sweating or leaking. Careful molding and solid steel eliminate all defects so that the pressure test is merely a matter of protection.

On one particular job, HI-STEEL Fittings have been in active, continual use, day and night, for more than two years at 800 deg. F. and 800 lbs. pressure—and with never a leak or a failure.

This same dependable service is at your command in large, small, special, heavy and extra heavy hydraulic electric steel fittings.

HI-STEEL Fittings are made of the best obtainable electric steel. They are tested to 2500 lbs., are specially heat treated and are close tolerance machined.

Ohio Steel service is your service. Take advantage of it and let us quote on your specifications.

The Ohio Steel Foundry Company

Springfield, Ohio

Plants in:

SPRINGFIELD LIMA BUCYRUS

Offices in:

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50 Church St.

CHICAGO
Peoples Gas Bldg.

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CLEVELAND,
Union Trust Bldg.

PITTSBURGH
Park Bldg.

PHILADELPHIA
22 S. 15th St.

Acme Prospers Because Acme Helps the Industry Prosper

The manufacturer of chewing gum can afford to produce a very small unit of sale for two principal reasons: first, because of standardized demand; and second, because of the continued momentum of demand.

Were the refiner to sell his product in small units to the small retail distributor, his overhead would leap sharply upward and with it his production and distribution costs. Therefore the economics of business would cause a sharp rise in his price.

At this point the Wholesale Oil Distributor, with his great storage tanks, steps forward and buys the distributor's oils and stores them against future small orders from Retail Distributors.

It's just the same principle that runs throughout every channel of production and distribution. The demagogue who cries "Down with the Middleman!" to win popular acclaim does an injury to both business and public when he deliberately fails to recognize the exact economic status of the middleman.

It has been gratifying to Acme to note that the Oil Industry knows too well what distributors like Acme mean to the business in general to take such clamor seriously.

Test Acme Service,—it will pay you.

(This is eighth of a series of informatory advertisements on distribution problems with which the Oil Industry has to contend.)

ACME

Petroleum Company

Executive Offices: 624 S. Michigan Ave., Chicago

KANSAS CITY, MO. Land Bank Bldg.

DALLAS, TEXAS Magnolia Bldg.

OIL STORAGE PLANTS

West Tulsa, Okla. Blue Island, Ill.

(*Chicago Switching District*)

RAINS CHECK CHICAGO CONSUMPTION

Oil Men Still Hopeful Remainder of Season Will Prove More Successful. Kerosene Demand Has Improved. Contracting for Distillates. Fuel and Gas Oil Selling Fairly Well. Tank Wagon Cuts Less Numerous

By John B. Waldo

CHICAGO, Aug. 11.—The Chicago market was quiet last week but the optimistic among the oil men have not lost hope at the lack of demand for gasoline. The torrential rains that have swept the city and the surrounding country have had much to do with the lack of actual business, they argue, and are only a temporary interference. The demand they claim during the remainder of the month and part of September should be very large. The refiners argue that stocks are not large in the Mid-Continent Field and what stocks there are are chiefly owned by concerns with distribution of their own and as liable to buy as to sell gasoline.

Advance Selling

There has been some advance selling of New Navy gasoline at 7½ cents but the refiners who have faith in the industry believe these advance sales may yet be covered at more than the price made by the brokers to the jobbers. The wish is undoubtedly father to the thought and yet it may be so. Many refiners have been selling as they ran the gasoline fearing that if they ran it to storage they would have to carry it a long time before they got a better market. Several have told the writer or have been reported as stating their stocks of gasoline were light. The big companies like The Texas, Empire, White Eagle, Barnsdall and Sinclair, all have their own distribution and they may not be able to sell much of their holdings, in fact some of them have been buyers of gasoline recently. So it may come to pass that with better weather and an elarged demand for gasoline the market may move up and the short seller get caught. Then he may not and right now it looks as if he were playing a pretty safe game in selling short on the present market.

July was a fine month for gasoline sales. All the refiners moved a lot of gasoline. The month did not start out as well as it finished and the hope is that August's had beginning may be more than made good later. Up through the Wisconsin wheat belt the crops are practically under water. There are great areas in the territory around this city so water soaked the farmers cannot enter their fields to secure the wheat crop or cultivate the corn. Roads are quagmires where not hard surfaced. This city has had five inches of rain fall in a week and little or no sun or dry winds. Sales of gasoline by jobbers to consumers have been light and they have not needed to replenish their supplies, not even to send in shipping instructions on their contract requirements.

Moderate Price Cutting

In this condition of the gasoline demand, there has been considerable competition for business but only a moderate price cutting has resulted. The prices quoted to jobbers have ranged from 7½ to 8 cents and while there has been a greater proportion sold at the lower price than last week, there have been few orders placed at less than 7¾ cents and most have been booked under exceptional circumstances, as to quantities or the customer. It was claimed that in Western Iowa and through Kansas a Tulsa selling agency had been making prices for delivery from a Kansas plant that would have figured a lower price but on investigation it was found that while the deliveries were to be from this plant the prices were "F. O. B. Group 3." Some business has been placed at concessions. It is reported here from Tulsa that the Pierce Oil bought 50 cars of New Navy at 7⅜ cents but if true it was probably 57-59 and possibly off color as the same order was stated to include 30 cars of the 56-58-450 at 7¼ cents and it would hardly seem likely the buyer would pay 7¼ for the 450 endpoint and the seller sell New Navy, full specifications, at ⅛ cent more. The higher tests gasolines are selling only moderately and prices are not firm. Blends are very quiet. Natural gasoline is stated to be selling liberally to certain buyers but the market here is unchanged.

Kerosene In Demand

The kerosene demand has improved. The report was circulated that the Sinclair Refining Co. had been in the market for a considerable quantity, but inquiry at the office only developed the statement they knew nothing about it here. The Chicago office has been greatly reduced by removals of many departments to New York City and this city has now little more than a district office except that President Cudahy and Vice-President Sheldon Clarke have their office in Chicago. The demand has been general and from all directions but not for large amounts. Rather many small or single car orders. The price is now quoted as firm at 4¼ cents but some might be had by a good buyer at ⅛ cent less.

There is considerable contracting for distillates mostly on the basis of the crude prices. All the dealers expect a big business during the coming fall and winter in supplying the oil burners. The oil burner has made considerable progress in the estimation of the home owners during the past season but there are still many who will wait another winter to see how the improved oil burners work. One great drawback to the distribution end is that it so closely resembles the coal business as respects seasons of demand and requires considerably more investment to make it a success. It costs much more to prepare storage for oil than for coal and the delivery trucks cost more than the coal wagons in common use. Something will be worked out in time and the industry put on an established basis. In the meantime the distributors are contracting for supplies for the expected demand. Refiners are rather hesitant in naming prices for distillate but the suggestion has been made that in time there will be developed a distinct source of supply for the various fuel oils needed just as there has been a supply of other specialties and that the refining of fuel oils for home burners should be treated as a specialty and worked out along the lines that would give the best result.

Fuel Oil Selling

Fuel oil has been selling fairly well to the consumers but not in large quantities. Individual orders are not large. A contract for 50 cars over three months is a good contract the way things are going now and the outlook is for a continuance of careful buying for some weeks at least. The price situation is rather strong although the average oil man is surprised at the strength of the market. The more pessimistically inclined regard with considerable concern the extent of coal stocks and the lowness of coal prices and claim that advances in the price of fuel oil are impossible with coal at so low a cost but the coal man is as insistent that his selling prices are too low as is the oil producer and the price of coal will be likely to advance with the coming of colder weather. The present market is very close to 75 cents for 24-26 refinery fuel oil f. o. b. Group 3 in sellers' tank cars. Some sales have been reported at 77½ cents and one car was sold at 82½ cents which shows that real sellers can get better than the bottom price.

Gas oil is in about the same position as fuel oil. The demand is of a hesitat-

(Continued on Page 128)

Many terrific, costly oil fires start in a small way, in some unprotected corner of a refinery

Some of the biggest oil fires start with the "smallest" hazards

But with Foamite *Portable Equipment you can instantly kill such fires at the outbreak*

THE "small" fire hazards in the oil industry are too often neglected. They are responsible for a lot of loss and damage.

It is not enough to safeguard big tanks. You can't afford to overlook the many places where leaking, dripping oil is always a menace —in refinery or storage station.

Oil men know the record of the *Foamite* System installations—now safeguarding 52,000,000 barrels of oil in storage. ***Never a failure, when properly designed, installed and maintained!***

And this same sure protection can be applied to your smaller fire risks with *Foamite* portable equipment. The Foamite 2½-gallon hand extinguisher throws out about 20 gallons of fire-killing Firefoam, reaching fire 30 feet away. The Foamite 40-gallon engine generates about 300 gallons of Firefoam, throwing it a distance of 60 feet. Even fierce fires in stills can be smothered with the engine.

Foamite *hand extinguishers and portable engines reach and quickly smother incipient oil fires*

Install these unfailing safeguards at the "minor" danger points. Check the small fires before they can grow or spread.

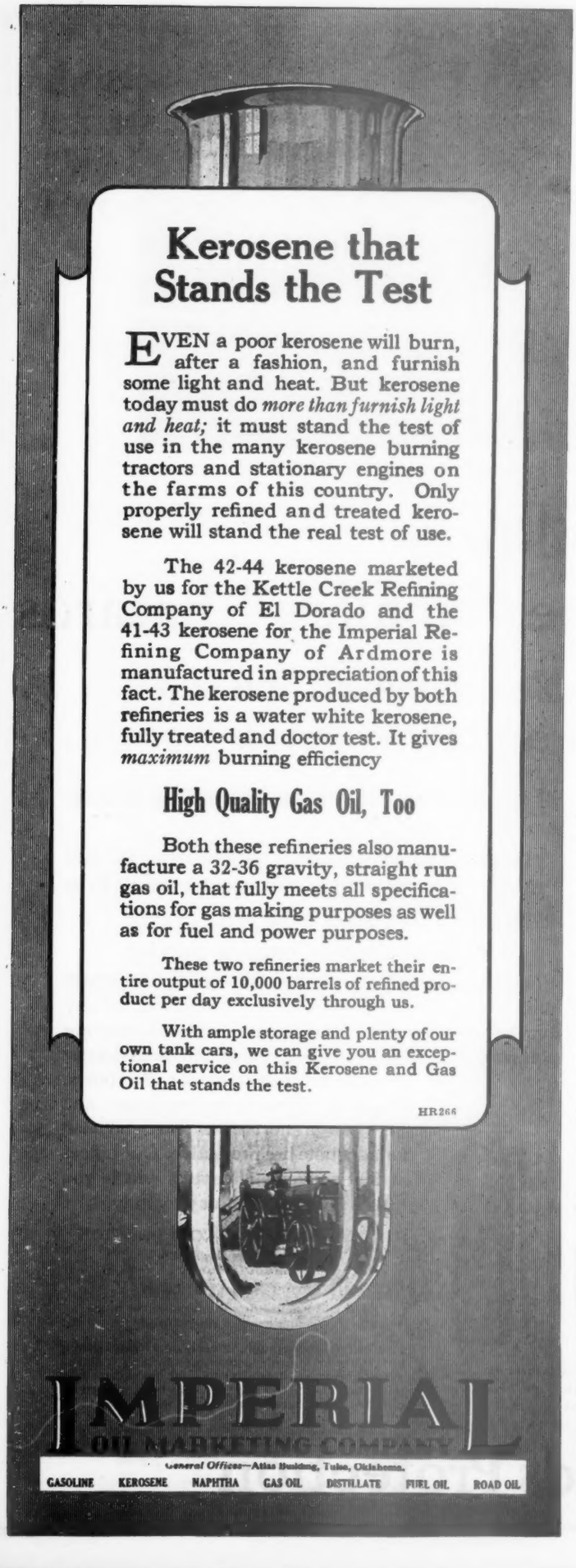
Foamite-Childs Complete Service

Foamite-Childs representatives are ready to consult with you on any question of fire protection, for any type or size of fire risk. This service includes furnishing complete *Foamite* Systems, detail designs for Systems, *Foamite* material for Systems, *Foamite* portable extinguishers and engines—in short—whatever you need for adequate fire protection. Our offices at 300 convenient centers enable you to get in touch with us promptly.

FOAMITE-CHILDS CORPORATION
Fire Protection Engineers and Manufacturers
41 Turner Street, Utica, N. Y.
Sales and Engineering Representatives in the leading cities of all countries

Firefoam is made tough, durable and heat-resistant by Firefoam Liquid—the most effective foaming agent known—the only one that has successfully withstood the test of time and has been proven by *real* fire under actual service conditions.

Foamite-Childs Protection


Kerosene that Stands the Test
EVEN a poor kerosene will burn, after a fashion, and furnish some light and heat. But kerosene today must do more than furnish light and heat; it must stand the test of use in the many kerosene burning tractors and stationary engines on the farms of this country. Only properly refined and treated kerosene will stand the real test of use.
The 42-44 kerosene marketed by us for the Kettle Creek Refining Company of El Dorado and the 41-43 kerosene for the Imperial Refining Company of Ardmore is manufactured in appreciation of this fact. The kerosene produced by both refineries is a water white kerosene, fully treated and doctor test. It gives maximum burning efficiency
High Quality Gas Oil, Too
Both these refineries also manufacture a 32-36 gravity, straight run gas oil, that fully meets all specifications for gas making purposes as well as for fuel and power purposes.
These two refineries market their entire output of 10,000 barrels of refined product per day exclusively through us.
With ample storage and plenty of our own tank cars, we can give you an exceptional service on this Kerosene and Gas Oil that stands the test.
HR266
IMPERIAL
OIL MARKETING COMPANY
General Offices—Atlas Building, Tulsa, Oklahoma.
GASOLINE KEROSENE NAPHTHA GAS OIL DISTILLATE FUEL OIL ROAD OIL

GASOLINE STOCKS IN EAST STILL BURDENSOME DESPITE CONSUMPTION

By N. O. Fanning

NEW YORK, Aug. 11.—Gasoline in the eastern market is still in considerable oversupply in spite of the record consumption. Weather conditions, however, have been exceptionally favorable to increased demand, and while some of the big refiners report satisfactory reductions in stocks the increased competition in some sections is tending to upset calculations and to bear down prices.

Generally speaking, the gasoline market in the East has been steady following declines attributable to the latest Mid-Continent crude oil reduction. The movement of gasoline as regards the jobbing trade is on a hand-to-mouth basis, there being little inclination to purchase ahead due to the possibility of further decline in price.

In some of the cities in northern New York price concessions are still being made by larger companies due to competitive conditions and active price cutting. It now seems likely that this situation will exist in certain communities, such as Syracuse and Rochester, probably throughout the summer. However, the opinion is held that gasoline prices generally in the East should remain about unchanged, except for the eventuality of further crude oil reductions.

Figures of the U. S. Bureau of Mines for June show that East Coast refineries increased their average daily runs of crude oil some 20,000 bbls. as compared with May; however, gasoline production amounted to 150,008,749 gallons, compared with 156,287,268 gallons in May, the decline being partly due to the shorter month.

Stocks of gasoline at East Coast refineries showed their first decline of the year in May and a further substantial decline was recorded for June. Stocks at the end of each month of this year and at the end of December, 1923, follows (figures in gallons):

December, 1923	246,275,433
January, 1924	290,122,853
February	314,857,539
March	370,357,863
April	376,706,091
May	373,342,287
June	349,428,561

Gasoline stocks held by East Coast refineries at the end of June, 1923, were 247,529,730 gallons, or over 100,000,000 gallons less than those carried at the end of June this year.

Fuel oil in the East is still uncertain as to future price development. The market is described as being neither weak nor strong, but with little chance of a firming up in price. There is a general feeling that if prices remain steady it is all that can be expected in view of the crude production situation and the way exports are holding up. Gas oil is dull, with buying spasmodic.

Kerosene is steady and inactive, but refiners report a possibility of a better movement from now on. Lubricating oils are holding steady, but recent cuts in Pennsylvania grade crudes may affect some softening. Wax is stronger.

The export movement in all products is going ahead steadily with nothing noteworthy in the way of increased interest on the part of foreign buyers. Recent reduction in export naphtha prices has failed to uncover any substantial new buying but as soon as there is fair assurance that prices have reached the bottom renewed purchases are expected.

CHARCOAL ABSORPTION PROCESS EXPLAINED

(Continued from Page 108)

As in the case of the Landreth plant, many Mid-Continent gasoline manufacturers are watching the action of the combination oil and charcoal absorption plants with considerable interest. Many of these men feel that the ideal plant of the future, securing the greatest efficiency with the most economical expenditure, will be a combination plant of this order.

Mr. Oberfell and Mr. Alden feel that it is in this field the charcoal process offers the greatest advantages. They assert it is possible to build a fairly efficient oil absorption plant very cheaply. An under-designed oil absorption plant with a charcoal plant on the residue gas for stripping the gas of its vapors, is considered an ideal arrangement for an installation to treat large volumes of gas.

"Such an arrangement has much to recommend it besides the major consideration of low initial cost," they say. "A better grade of gasoline would be produced, less cooling water would be required, there would be less cost of upkeep and maintenance, and it would probably attain a high efficiency of gasoline extraction and have a greater flexibility for meeting sales specifications."

Application of Process

The application of the charcoal process to the residue gases from existing plants, both compression and absorption, has been successfully accomplished in many instances in the operation of several of the present commercially successful charcoal plants. In some cases some plants operating on the residue gases have reported trouble from a gradual loss of the absorption power in the charcoal. This was caused by the filling of the capillaries of the charcoal with oil from the oil absorption plants carried over either as a mechanically made mist or as a true vapor. Charcoal, so clogged, has been readily cleansed by means of superheated steam, whenever the occasion demands.

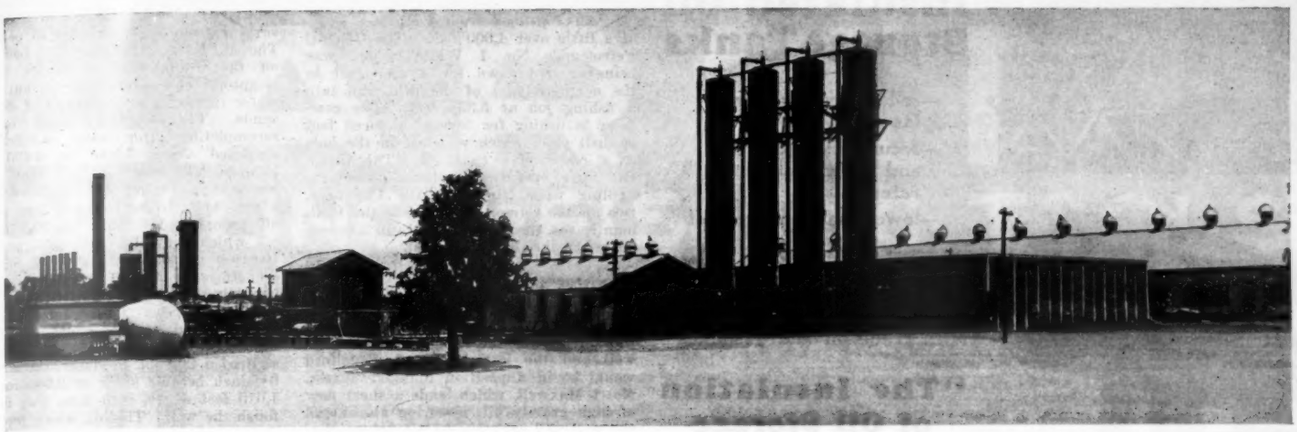
If the oil is carried over as a mist, the difficulty may be remedied by the installation of proper oil and gas separators, or more efficient scrubbers. If the trouble is due to the formation of a true vapor, the difficulty may be eliminated by the insertion of a small charge of charcoal ahead of the main absorbers which would serve to remove the oil vapors from the gas without disturbing the gasoline vapors. The small charge may be cleansed by washing it with gasoline and recovering the gasoline by distillation. Trouble of this nature has been rare.

RECORD BREAKING TRAIN

ALEXANDRIA, La., Aug. 8.—What is believed to have been a record for the longest train in the history of American railroading was made last week by the Missouri Pacific into Alexandria in connection with the present enormous movement of crude oil from the Arkansas fields through this city to the Standard Oil refinery at Baton Rouge and to Avondale and Sabine Pass for export, it was disclosed Tuesday by railroad officials. The single train was in eight section of 50 cars each, exceeding by 100 cars the record-breaking wheat train out of Newton, Kans., last week. The movement of oil through Alexandria since June 25 has averaged 200 cars daily.

PURE OIL PIPE LINE EXTENSION

HOUSTON, Tex., Aug. 9.—The Pure Oil Pipe Line Co. is making a survey for a 7-mile extension of its line from Huffman station to the steel storage of the Galena-Signal Oil Co. of Texas at Humble. It is reported the pipe line will make deliveries of Powell and Richland crudes to the Galena-Signal Co. and probably receive heavy gravity Coastal crude in return. The Galen-Signal Co. has a pipe line from Humble to its refinery and docks on the Houston ship channel, a distance of 20 miles. It also has production in the deep sand section of the Humble Pool and an interlocking arrangement with the Republic Production Co., with production in the Hull Pool.



Breckenridge Plant Complete

With this plant, we now have 14 modernly equipped natural gasoline plants advantageously located, enabling us to guarantee with more assurance than ever both the delivering and quality of Chestnut & Smith Natural Gasoline, the "Pep of Petroleum," in all of the many grades, or special grades, according to specification.

NATURAL GASOLINE GRADES MANUFACTURED BY CHESTNUT & SMITH CORPORATION

Natural Gasoline

GRADE "A"
Gravity.....Not below 72° Be.
Not above 78° Be.
E. P.....Not over 375° F.
Recovery....Not less than 90%

GRADE "B"
Gravity.....Not below 76° Be.
Not above 82° Be.
E. P.....Not over 375° F.
Recovery....Not less than 85%

GRADE "C"
Gravity.....Not below 80° Be.
Not above 88° Be.
E. P.....Not over 350° F.
Recovery....Not less than 78%

GRADE "D"
Gravity.....Not below 88° Be.
Not above 92° Be.
E. P.....Not over 350° F.

Motor Natural Gasoline

GRADE "1"
Gravity.....Not below 58° Be.
Not above 62° Be.
E. P.....Not over 437° F.
Recovery....Not less than 91%

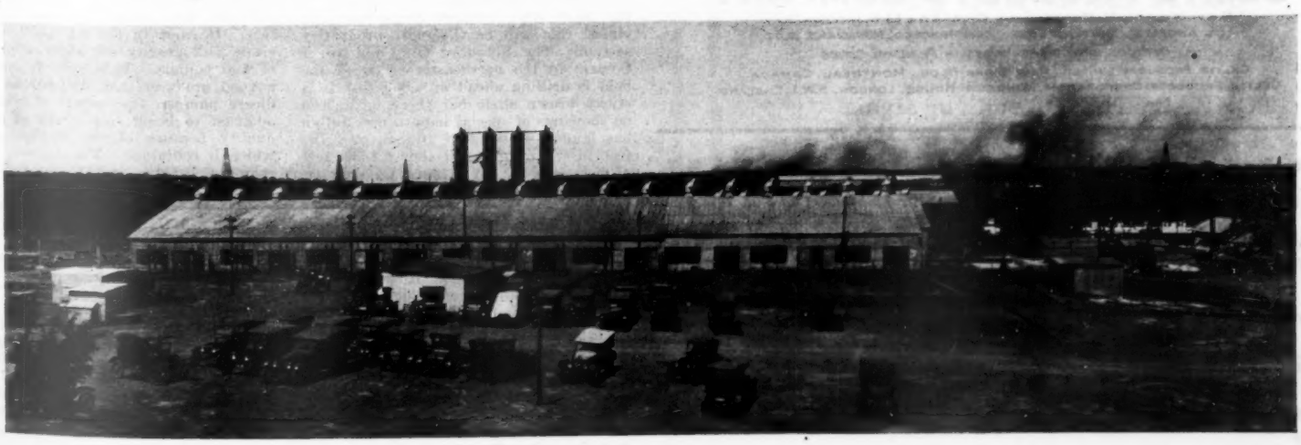
GRADE "2"
Gravity.....Not below 58° Be.
Not above 62° Be.
E. P.....Not over 450° F.
Recovery....Not less than 90%

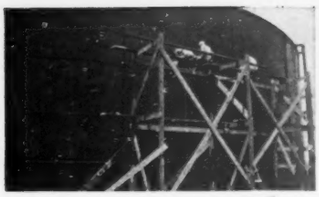
GRADE "3"
Gravity.....Not below 64° Be.
Not above 66° Be.
E. P.....Not over 440° F.
Recovery....Not less than 88%

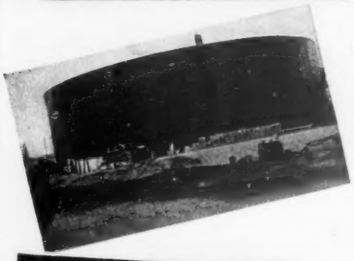
GRADE "4"
Gravity.....Not under 66° Be.
Not over 70° Be.
E. P.....Not over 435° F.
Recovery....Not less than 85%

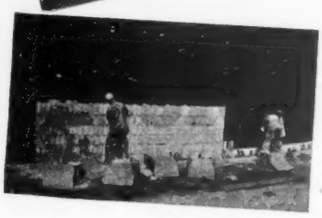
CHESTNUT & SMITH CORPORATION

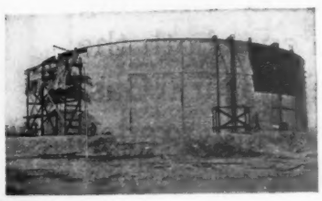
GENERAL OFFICES ~ CHESTNUT & SMITH BLDG. ~ TULSA OKLA.

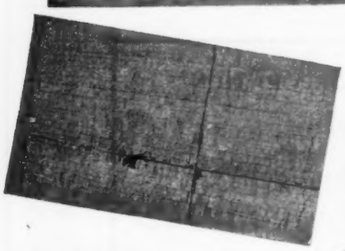


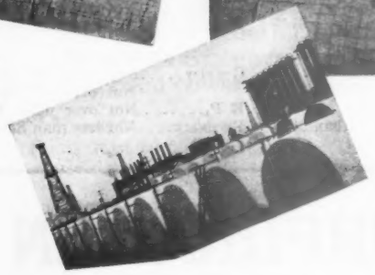












Insulated Oil Storage Tanks

—reduce evaporation losses
—secure fire protection and lower insurance rates
—lower maintenance cost

These are some of the results secured from Sil-O-Cel insulated storage tanks for both crude oil and gasoline.

"The Insulation of Oil Storage Tanks"

gives facts regarding the losses from oil storage tanks, treats of the fundamental requirements of insulation construction, and gives complete specifications, working drawings and photographs of the practical application of Sil-O-Cel.

Sent Free Upon Request

Ask for Bulletin C-19 or mail the coupon.

The above photographs illustrate stages in the application of Sil-O-Cel Insulation to prevent evaporation losses from a 55,000-bbl. tank.

BARRIERS
SIL-O-CEL
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CELCOTE
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CELITE PRODUCTS COMPANY

NEW YORK - 11 BROADWAY. CHICAGO - 53 W. JACKSON BLVD.
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CELITE PRODUCTS LIMITED, NEW BIRKS BLDG., MONTREAL, CANADA
CELITE PRODUCTS CORPORATION, WINDSOR HOUSE, LONDON, S.W.1., ENGLAND.

Celite Products Company,

Gentlemen:

Without obligation send Bulletin C-19, "The Insulation of Oil Storage Tanks."

Name_____

Position_____

Company_____

Address_____

CALIFORNIA FIELDS

(Continued from Page 56)

of a little over 4,000 feet. The General Petroleum's No. 1 White, which was being carried down for a deep test in the northern part of the field, ran into a fishing job at 5,358 feet. The company is fishing for several hundred feet of drill pipe, which was left in the hole as a result of a twist off. The Union Oil Co.'s operations consist of several drilling wells, three on the Callender, two on the Carson and two on the Hellman leases, three of which are in a brown shale streaked with oil sand.

Rosecrans

Neither the Superior nor the Union succeeded in placing its wells on production in the Rosecrans area, although it was expected the former's No. 1 Maxwell and the latter's No. 1 Padelford would be in a position to make a test. No. 1 Maxwell, which made a short flow of high gravity oil, is coring ahead and the well will probably be carried another 50 feet deeper befor being placed on a production test. The present condition of this well seems to indicate a water shut off has been secured, although it is not known just how deep the sand is at the present depth, 4,309 feet. The Union's No. 1 Padelford has also apparently secured a water shut off, although at a much shallower depth than the Superior's No. 1 Maxwell. The Union is working very cautiously with the well and for this reason the production test has not yet been made. The company's No. 1 Gray, nearby, had a very substantial showing of oil and gas at 4,006 feet but it, too, is being drilled very carefully. No. 1 Chandler, No. 1 Hursey and No. 1 Zins have been temporarily shut down because of water shortage. On the Rosecrans lease, the Union is ripping the 4½-inch in No. 1 at 4,041 feet and is drilling No. 2 at 3,245 feet and No. 3 at 2,550 feet.

The Associated Oil Co.'s No. 1 Higgins, south of the Union's No. 1 Rosecrans, got sufficient showings to warrant the landing of a string of 8¼-inch. After the cement has set, the well will be cored ahead. The Pacific Petroleum Co.'s test, formerly Morrison's No. 1 Swesey, is making hole at 4,371 feet but so far no showings of importance have been noted. A core taken in the St. Helens Petroleum Co.'s No. 1 Rowell revealed a slight showing of oil at 4,065 feet but it was not deemed sufficient to warrant a test. In the northern part of the district, the Union has No. 1 Trust down 4,000 feet, No. 2 Athens at 3,945 feet and No. 3 Athens at 1,200 feet.

The Barnsdall Oil Co. picked up a fair showing in No. 1 Rosecrans at 4,082 feet and set a string of 8⅝-inch at 4,077 feet. The company's No. 1 O'Dea has recovered from a fishing job at 3,571 feet and is going ahead. The most northwesterly well in the field, the Sentinel's No. 1 Brown, shows 3,435 feet of hole, a recent core having been negative. The Shell Oil Co. has staked a location for No. 1 Leonis still further north but has not yet moved in material. The Shell has secured several leases in this part of the field and apparently seems convinced this will be the most productive section. The Standard Oil Co.'s No. 1 Cowan, in the northeastern part of the field is drilling ahead at 4,005 feet in a sticky brown shale but there have been no showings of special importance. Julian has landed a string of 10-inch at 3,794 feet in well No. 9 and shows 2,600 feet of hole in No. 1-A Athens Community. George F. Getty is making preparations to begin work on his lease in this field and is moving a rig which he had erected at Dominguez to his new property at Rosecrans. The General Petroleum Co. started its third well at Rosecrans, No. 1 Welcome, and should begin making hole within a few days, as it is all rigged up. The company's No. 1 Amestoy is standing cemented at 3,560 feet, while No. 1 Vaughn is drilling ahead at 3,700 feet.

Long Beach

There were just a few good wells finished at Long Beach during the week, but, in spite of this small amount of new production, there was very little change in the total daily output. In several instances the current completions showed an unusually large cut, the water varying from 3 per cent to 75 per cent. The M. K. S. Syndicate put two wells on the beam, both of which showed symptoms of improper water shut off or water intrusion as the result of depleted sands. The company's well No. 2, a recompletion after being redrilled and deepened from 3,900 to 4,490 feet, pumped 148 bbls. of 20.9 gravity oil which showed a cut of 10 per cent. No. 4, a new well, drilled to 4,447 feet, started off pumping 180 bbls. of 20.2 gravity oil, which showed a cut of 20 per cent. Because of the unsatisfactory condition of both, it is probable the company will be obliged to do some additional work. The Henderson Petroleum Syndicate, after a good deal of effort, put No. 1 Malloy on the pump at 3,948 feet and secured a 260-bbl. producer. A string of 6¼-inch became stuck at 2,990 feet and 1,075 feet of 4¾-inch liner was used to finish the well. The oil, which tests 24.2 degrees, shows a cut of 5 per cent.

The United Oil Co. increased its list of producers by completing No. 5 Hass and, although the initial output was cutting 25 per cent emulsion, it has since cleaned up. The well, drilled to 4,018 feet and finished with a 6¼-inch oil string carrying 715 feet of perforated, is pumping 151 bbls. of 24.4 gravity oil which shows a cut of 2 per cent. The company also put No. 1-A Denni on the beam after drilling it to 5,015 feet, but it sanded up and the crew is at present cleaning it out. The San Martinez Oil Co. completed its second producer on the Fry lease and secured a 250-bbl. pumper of 24.2 gravity oil which cut 3 per cent. It was drilled to 4,059 feet, only two strings of casing being necessary, the 15½-inch landed at 620 feet and the 10-inch at 4,008 feet. The Bush-Voorhies Oil Co. put No. 1 Barnes on a production test early in the week but the best the well would do was 170 bbls. of fluid, 75 per cent water. This well was originally drilled to 4,951 feet but a fish in the hole prevented the company cleaning out below 4,200 feet and, as a result, the production is very unsatisfactory.

The Pan American, in addition to starting No. 1 Pyle & Coffin, is preparing to bring in No. 5 Union Pacific and No. 1 Wallow, both standing cemented. No. 3 Anderson is being cleaned out and, since a shut off has been effected, it may be on production shortly. The Shell Oil Co. finished No. 4 Hutton, a new well, at 4,991 feet and is scheduled to begin swabbing for production within a day or two. Indications point to a good producer. The Ramsey Oil Co. also has a well which seems to have plenty of kick and if No. 4-B Municipal is completed during the new week or two, it should increase the company's production very substantially.

Santa Fe Springs

The Donley Oil Syndicate's well No. 1 proved to be the biggest surprise which Santa Fe Springs has had for some time, when it was put back on production during the early part of the week after being plugged back from the Meyer zone at 4,103 feet to the Bell zone at 3,925 feet. It came in flowing 2,552 bbls. of clean 31.2 gravity oil under a pressure of 190 pounds. This well, at one time a good producer, had dropped to a mediocre pumper, the output of which, in addition to being small, was of a poor quality because of the foreign matter which it contained. The decision of the company to plug back to the Bell zone, which had been passed up for the more prolific Meyer zone, proved to be a wise one and, although the present heavy production will not hold up for any great length of time, it should prove a far more profitable well to operate because of the shallower depth when it becomes necessary to pump. The success which many companies have had by plugging back should encourage others to do likewise and, although there are at present only 65 wells producing from the Bell zone, their daily average well production is approximately 300 bbls., as compared with 170 bbls. for the 270 wells producing from the Meyer zone.

The Standard's No. 2 O. A. Hough-

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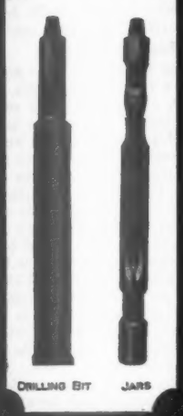

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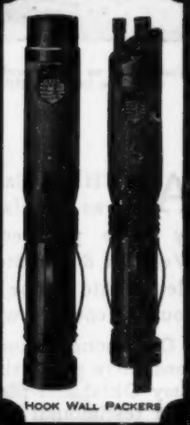

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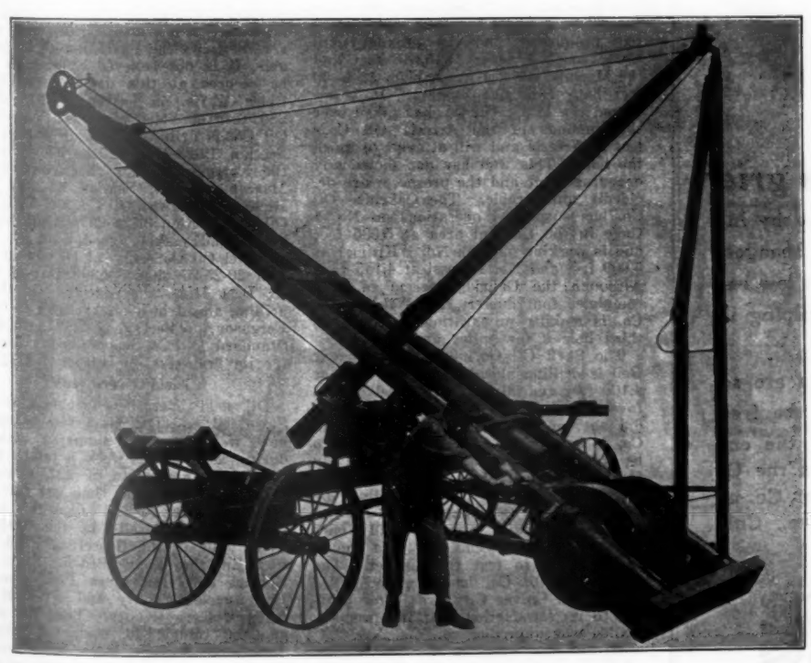

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ton, a Meyer zone completion, when compared with the Donley Oil Syndicate's Bell zone producer, was decidedly unsatisfactory, both as to quality and quantity of oil produced. The Standard's new well is a 110-bbl. pumper from 4,689 feet, the oil testing only 21.4 degrees and showing a cut of 20 per cent. The Shell Oil Co.'s No. 6-A Slusher, being carried down in the center of the field in search of a fourth sand, is still dry at 6,060 feet.

The only new work recorded during the week was the construction by the Petroleum Midway (California Petroleum) of a steel rig on the Mattern property, preliminary to drilling a gas well, which, it is believed, will be completed in the gas zone around 2,000 feet. The Union Oil Co. is making preparations to abandon No. 5 Bell at 4,514 feet after a long period of inactivity, and unsatisfactory production.

Huntington Beach

There were two wells put on production in the Huntington Beach Field during the week, one a cleanout job. The new well was No. 2 Geisler of the Standard Oil Co., which, when put on the beam, pumped 185 bbls. of 15.1 gravity oil cutting 25 per cent water. It was drilled to 4,441 feet and finished with a 6¼-inch oil string landed on bottom. The recompletion was the Petroleum Midway's No. 2 Brown, which was cleaned out to bottom, 3,700 feet, and returned to production making 35 bbls. of clean 22.6 gravity oil daily.

Miscellaneous Drilling

There were no new developments of interest in the Rideout Heights section of the Whittier Field during the week, because several of the wells drilling are standing cemented. The Standard Oil Co.'s No. 1 Patton at 3,855 feet, Petroleum Midway's No. 1 Seward at 3,888 feet and No. 1 Witte at 4,230 feet are making good headway and should prove interesting to watch during the next few weeks. The Union Oil Co.'s No. 7 Hole in the Coyote Field, which came in a short time ago flowing around 900 bbls. a day after being plugged back, has decreased to approximately 150 bbls. daily, the quality of oil, however, remaining unchanged. The Associated Oil Co. is making preparations to offset No. 7 Hole and should begin drilling shortly to test out this shallow sand. The Petroleum Midway secured a fairly good core sample in No. 1 Richfield Consolidated at 4,220 feet and indications look promising for the completion of a deep producer in the Richfield district.

Wildcatters in the Anaheim area have not yet run across anything which looks like production and the Standard Oil Co.'s No. 1 Wagner at 5,645 feet and the Marland's No. 1-A Anaheim at 1,300 feet both look like dusters. It is reported the Miller Oil Co. has taken over the holdings of the Artesia Oil Co.'s test at Artesia and will attempt to finish the hole. This well has not shown any encouragement and the prospects are decidedly unfavorable. The Oakridge Oil Co. has suspended operations on No. 1 Gage in the Bandini area at 5,035 feet and is working only on No. 1 Kramer at 5,000 feet and No. 1 Rossi at 4,745 feet. Although the Oakridge seems to have completed four dusters, the Wilshire Oil Co. is making preparations to drill its third hole a few miles away.

The Shell Oil Co.'s No. 1 Loomis at Bell is drilling ahead in a hard sand at 4,100 feet and, although this well looked favorable for some time, the showings did not continue. The Culver City Oil Co. is hauling in material for a rig to be erected approximately 500 feet away from the present Mohawk Oil Co.'s well No. 1 at Culver City, now standing idle at 1,637 feet. It is not known whether the two companies intend to drill simultaneously but it seems one hole should be sufficient to test the district. The Associated Oil Co. has recently pulled out of the Culver City area after proving to its satisfaction that the property drilled was unproductive.

Recent developments in the vicinity of El Segundo are not very encouraging as neither the Pan American's No. 1 Pacific Southwest at 4,650 feet nor the Shell Oil Co.'s No. 1 Fortuna at 4,568 feet looks favorable. In the Inglewood district, the Standard Oil Co. made a production test of the shallow sand at 1,018 feet but failed to secure a satisfactory production and the company is concentrating its attention on several deep holes being drilled for a deep sand. So far the Standard only has two shallow holes and three deep tests to show for the $500,000 cash paid for the lease. In the vicinity of La Mirada, the Associated Oil Co. has reached a depth of 2,800 feet in No. 1 McNally, while the Standard Oil Co., a short distance away, is drilling No. 1 Culp in the yellow clay at 1,060 feet. The Ring Oil Syndicate made a production test of its South Mountain well in Ventura County and, while a little oil and water was made, it did not result in commercial production. The company is, accordingly, drilling ahead in search of a deeper sand.

San Joaquin Valley

In the Wheeler Ridge Field, the Standard Oil Co. has four drilling wells, on Section 28-11-20, all of which will probably be carried down to the deep zone. No. 3 at 4,140 feet should be the Standard's next producer. The company has erected a new rig, No. 14, on the adjoining section (27-11-20) and should spud in within a short time. At Comanche Point, the Globe Petroleum's test is still standing suspended at 2,450 feet. The General Petroleum, however, is rigging up cable tools on Section 31-12-18 for a deep test and should begin operations shortly. Development work in the Poso Creek area is progressing rather slowly with only one well, the Sandburg's No. 4, making any real progress. The Union Oil Co. has staked a location near Rio Bravo on Section 4-29-25 for a thorough test of its holdings. Several holes have been drilled a few miles away but it is not believed they were favorably located.

On the Kern River Bluffs, the Pan American's No. 1 Parkford, Section 13-29-39, is coring ahead at 3,145 feet, although the Central Oil Syndicate on Section 36-28-28 has not yet resumed operations on its test following a recent blowout at 1,900 feet. On Section 14-29-28, the St. Helens Petroleum Co. has erected a rig and is about ready to spud in. There was no new work done on the Jacalitos Dome at Coalinga during the week and, although it is reported the Marland Oil Co. has taken over the Snowolene Oil Co.'s test, operations have not been started. In the Kettleman Hills, the General Petroleum Co. on Section 28-22-18 is running tubing for a production test at 4,739 feet and, while a core shows the formation to be favorable, it is not believed a producer will be secured at this depth. The Bolsa Chica Oil Co., on Section 30-23-19, shows 280 feet of hole, while the Associated Oil Co. is drilling ahead at 260 feet on Section 12-23-17. In the Hovey Hills, the Fortuna Oil Co., Section 28-32-23. Mascot Oil Co., Section 32-32-23 and Richmond Midway Oil Co. and Vivian B. Oil Co., Section 35-32-23, are all drilling ahead and making good footage. The Sentinel Oil Co.'s test at Delano on Section 20-25-27 shows 2,300 feet of hole. At Lost Hills, the Marland Oil Co. is drilling ahead in a sticky shale in No. 1 Ferguson, on Section 28-25-21, while the Standard Oil Co. has staked a location for its first test on Section 5-27-20.

Field Operations

Oil field operations reported to the State Oil and Gas Supervisor show 24 new wells started, compared with 22 during the previous week, a total for the current year to date of 927, compared with 888 at the same time last year. Of the 24 notices to drill filed this week, nine were for wells in the Torrance Field, four in the Rosecrans Field, one each in the Long Beach, Santa Fe Springs and Dominguez Fields, one in Los Angeles County and seven in the fields of Kern County. Tests for water shut off totaled 46, compared with 35 during the previous week, while deepening or redrilling jobs totaled 17, as compared with 27 during the previous week. There were nine holes abandoned, bring-

(Continued on Page 122)

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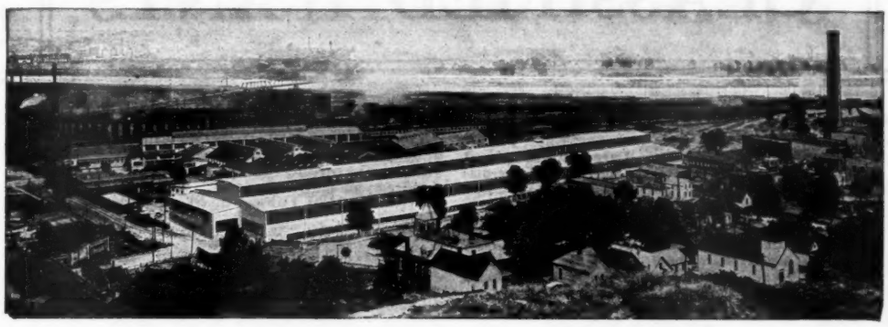

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WANTED

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WANTED

WANTED—Parties to join in development of two oil properties on actual cost basis, whatever that may be. Kentucky, 150-acre lease, $3,000.00, drilling about $2,000. Indiana, 80 acres or 160 acres, one or two wells at about $3,000 each. And a square deal! Marshall L. Wotton, 709 North L. St., Tacoma, Wash.

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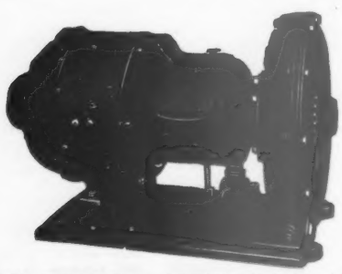

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MOON LIGHTING OUTFITS

CUMBERLAND COUNTY OIL HORIZONS GIVE MANY SOURCES OF PRODUCTION

By Col. Lucien Beckner

Cumberland County, Kentucky, is the oldest commercial oil field in the world, its first commercial well coming in in 1829 and pumped thence to about 1860 producing about 50,000 bbls. of oil. It experienced booms in 1858, 1866, 1894, 1901, and the present one which began in 1920. It may also be said to be the oldest oil field in the world geologically since many of its best sands are below the Trenton and the deepest one perhaps in the Cambrian.

The first well was drilled for salt and its oil production was a calamity, the gullibility of the public permitting it to take commercial rank as the producer of a quack medicine or "cure-all." But long before Colonel Drake began the Pennsylvania "boom," which is popularly supposed to begin the drilling for oil in America, men were drilling with the set purpose of finding oil in Cumberland County, which was to be used for delousing hogs, building fires, burning in lamps and for internal and external remedies for all the ills the flesh is heir to. But after having been discovered, the field was forgotten. Geologists, working on the analogy of the Pennsylvania geology of oil are said to have refused at first to consider the possibiilty of oil occurring in the Trenton rocks of Ohio because their age and lack of silica content, knowing nothing about the Trenton Field of southern Kentucky, America's first producer.

Possibly had the geologists given their first study to the Trenton Field of southern Kentucky, the development would have spread first into Ohio, the sandstone sands of Pennsylvania being spurned because of their too great youth and silica content; and today we may have been just bursting into these rich horizons! What a reversal of history this would have been. But the old lost field has been found again and is pouring out its golden flood, by pumpers and gushers, through a 40-mile pipe line to the railroad at Glasgow, where it goes into the world's business.

Sands of Cumberland County

Geologically speaking, the "sands" of Cumberland County fields are all Ordovician, save the lowermost which are probably Cambrain, and the oldest rocks producing oil commercially in the world.

All surface structure is worked on the bottom of the Chattanooga black shale of Devonian Age. This is a coal black, carbonaceous, fissile shale, so distinctive in appearance, topography, agricultural value and the springs along it, that its outcrop is easily followed. It is from 20 to 30 feet in thickness, averaging 22 to 24 feet. It rests upon rocks of the Richmond stage of the Cincinnatian series of the Ordovician.

All of the Silurian and most of the Devonian do not occur in the county, which is why the Devonian shale rests upon the Ordovician limestone. From the base of the Chattanooga down the rocks encountered by the driller are limestones, sandy, shale, massive, blue, black, brown, with the exception of the thin stratum of bentonite, a light green to white shale, having a curved pencil like fracture, composed of volcanic ash with minute specks of iron ore, running from 0 to 10 fet and averaging 2 to 3 feet, which is found at about 550 feet under the Chattanooga in the southern part of the county and from 600 to 650 feet in the northern part. This is known to the drillers as the "Pencil Cave" and is the base of the Trenton formation which bears so abundantly in Ohio. Upon it, all the subsurface work is based, the sands being correlated by their distance above or below the Pencil Cave.

Crude Oil Seepages

Oil seeps occur in several places immediately below the Chattanooga and, were the rocks in which such occur are covered over with an unbroken rock mantle instead of being cut through everywhere by the drainage, they might produce commercially. About 40 or 50 feet under the Chattanooga is a "sand" that shows oil in many places and is the oil horizon in the old Phelps well on Oil Fork, the depth of which was 47 feet. At about 160 feet to 190 feet under the Chattanooga is a sand that is usually covered and has produced small commercial wells, the latest well on Fanny's Creek being a 17-bbl. producer in it, and the Matthews gusher on Crocus Creek in 1866 was in it. But these upper sands are so shallow that they have been injured by the surface weathering or by the diastrophic movements in which, having no overburden to hold them down, they find their quickest relief in cracking. The first one is Saluda substage of the Richmond; the second is at the base of the Richmond or top of the Maysville, and the last is either Eden or Cynthiana (Catheys), probably the latter. It is often a calcareous sand with grains rounded and fine.

The greatest producing sand in the county to date is the "Upper Sunnybrook which lies about 250 feet beneath the Chattanooga shale. This is the best producer to date only because it is the one first encountered and consequently is the one most developed. The recent well on Galloway Creek that produced over 1,000 bbls. the first six years was in this sand and, owing to its anticlinal position, only 100 feet deep.

The next sand is the "Anderson," about 325 to 350 feet below the Chattanooga. This has produced a number of good wells and is often taken for the Upper or Lower Sunnybrook, so similar is it in appearance.

The next is the "Lower Sunnybrook," about 250 feet below the Upper and about 450 to 500 feet below the Chattanooga. It runs from 30 to 70 feet above the Pencil Cave. The three last sands are known as the Sunnybrook series and are very similar in appearance and performance, but the middle one is the least valuable. They are all dolomites of a rich color except that the Upper Sunnybrook is frequently a light gray shelly lime, with streaks of what seem to be pure white sand but which are only slightly quartzitic; none of the sands of the county being more than about 15 per cent qurtz. The two Sunnybrooks will run from 5 to 30 feet thick, perhaps averaging 15 feet, but not drilled through enough to define positively. The Anderson sand is not so thick, running from 5 to 10 feet only.

Black Pencil Cave

Beneath the Lower Sunnybrook are 40 or more feet of black lime at the top of which is a black pencil cave, with a fracture similar to the green, and perhaps containing a large proportion of volcanic ash but also containing carbonaceous material and lime. In the bottom of this the Fudge sand, from 5 to 10 feet thick, that has produced commercial wells, notably the Fudge gusher on Dutch Creek, in 1903, and is watched closely when drilling. Beneath this, usually immediately, lies the green Pencil Cave.

Just under the green Pencil Cave lies the "Judie sand," named for the creek upon which it is now producing some wells that came in (rather low on the structure) at about 40 to 70 bbls., and settle to 5 to 15 bbls. So far this sand has not gushed but it seems a very steady producer. It is also a dolomite a brown "sugar sand" and very porous in its type locality.

At 90 feet below the Pencil Cave comes the 'Modo" sand. This is another dolomite and has been drilled to so rarely that it is not well understood as yet but is thought to be about as thick as the Sunnybrooks. In the drilling of former years, it was not fully appreciated but it is now undoubtedly a permanent sand under the field and has some splendid results to its credit. It first attracted attention last year in the No. 1 well on the wonderful Huddleston lease, of the Morris Petroleum Co., on Sulphur Creek, one of the best wells in the field; and later in the Modoc well of Treat & Simmons in the southern Bear Creek area

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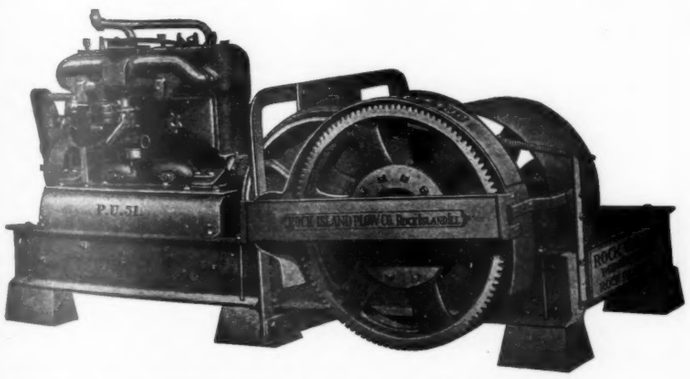

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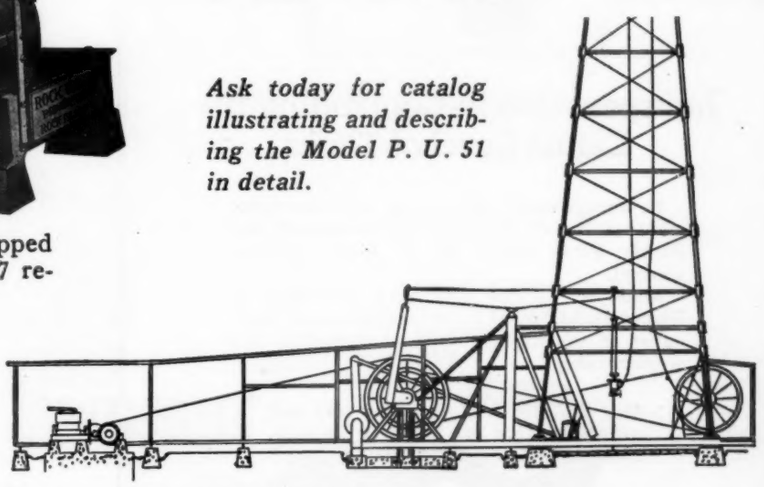

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where it flowed for a time at the rate of a barrel a minute.

Beneath the last sand the oil formations are but poorly known, but in the former drilling campaigns a sand was developed at from 175 to 225 feet below the Pencil Cave, notably in the wells on the Heard lease, which I have called the "Heard" sand. The thickness and performance of this sand are not fully known to us of this generation but when the pipe line reached the Heard lease in 1903 it had over 60 tanks, 250-bbl. size, standing full, the product of eight wells.

Other Lower Sands

Beneath the Heard sand there is one that ranges from 375 to 425 feet below the Pencil Cave that was developed in some of the former drilling campaigns, notably in the wells on the Cloyd farm. I have called it the Cloyd sand. Little is known about it save that it has produced some wells. The Kanawha Oil Co. has a producer in this sand in its No. 1 John Groce on Upper Sulphur Creek. The Morris Petroleum Co. drilled to it in its No. 1 Anderson on Galloway Creek and got a show of oil and a good showing was also obtained in this sand by the Oil Fork Development Co. in its No. 1 Bud Huddleston on Bear Creek.

Somewhere below this comes the division between the Ordovician and Cambrian systems; and in the Cambrian, and about 700 to 800 feet below the Pencil Cave, is a sand that is producing in the Kanawha Oil Co.'s Williams lease, on upper Sulphur Creek. This is probably the oldest producing sand in the world. It is the sand that produced the gusher at the Zack Cloyd No. 3, in 1903, in the Salt Lick Bend Pool. It is also doubtness the sand that produces the oil at 1,000 feet below the Pencil Cave in the deep wells of the Illiken Oil Co. at Mill Springs in Wayne County, 30 miles east of this field, the normal thickening of the measures to the east accounting for the increased distance from the Pencil Cave.

There is no shallow field in North America with so many pays in the same well, for, while not all of these will pay in the same well, more than one can be counted on for a certainty and sometimes more than two. Another feature is that the Upper Sunnybrook is inclined to be a synclinal sand as well as anticlinal one so that structure is not essential, such synclinal fields as Bear Creek, Neeley's Ferry and Salt Lick Bend proving this to be so. Nor is that the only sand so inclined.

The recent structural work shows that the great structures have been merely touched here and there and that if they will pay as such structures do elsewhere this field has its greatest wells and greatest production in the future; and that the excitement of the past will be rivaled and exceeded in the years before us.

CALIFORNIA FIELDS

(Continued from Page 116)

ing the total for the current year to date to 296. Permits were issued for the following new wells:

Torrance

Location, Company, Well—
Fullerton Oil Co.—
16-4-14 Salen 1.
Sentinel Oil Co.—
24-4-14 Joughin 12.
24-4-14 Joughin 13.
Standard Oil Co.—
19-4-13 Joughin 11.
22-4-14 Marble Fee 24.
30-4-13 Joughin 12.
Superior Oil Co.—
24-4-14 Torrance 48.
24-4-14 Torrance 49.
24-4-14 Torrance 50.

Rosecrans

Associated Oil Co.—
18-3-13 Haviland 1.
E. J. Miley—
7-3-13 Athens 1.
Federal Drilling Co.—
12-3-14 Barbour 1.
Union Oil Co.—
18-3-13 Athens 3.

Dominguez

Shell Co.—
33-3-13 Reyes 13.

Santa Fe Springs

Petroleum Midway Co., Ltd.—
6-3-11 Matern Three 8.

Long Beach

19-4-12 A. T. Jergins Trust 14.

Midway-Elk Hills

36-32-23 Big Ten Oil Co. 8.
14-31-22 Combined Oil Co. 16.
21-31-22 Retrieve Pet. Co. 1.
35-30-24 Pacific Oil Co. 8.

Kern River

20-28-28 Wilmer Oil Co. 4.

MEXICAN FIELDS

(Continued from Page 46)

Mendez station, on the San Luis lines, and is building a derrick for No. 1 Mendez.

At El Barco, Mexican Gulf Oil Co. No. 37 is drilling in gray lime at 2,115 feet; No. 52 cemented 8-inch in the same formation at 1,100 feet. In Salinas, to the east, its No. 2 cemented 8-inch in gray lime at 1,374 feet; No. 5 there is drilling in a hard sandy lime at 1,945 feet.

In the Tortuga, near Chila, Morrison and others No. 2 cemented 8-inch in a limestone at 1,650 feet; No. 6 blew up a boiler at 690 feet, and is shut down temporarily. Both tests got the red shale, which is an important marker over in the Panuco Pool, around 640 feet. If this shale works out here as it often did at Panuco it is a favorable formation at the depth noted. The No. 14 test is cementing 8-inch at 1,525 feet.

To Drill Right-of-Way

The National Lines of Railways, which has done some little drilling with indifferent results on Federal zone property in the old Panuco Pool is now launching forth, it is understood on what is going to be a considerable drilling campaign to secure fuel. In short, it is heard here that it proposes to test its right-of-way in the productive zone of its San Luis division. The right-of-way is 70 meters in width. Suffice it that it passes through the entire Ebano property of the Mexican Petroleum Co., traveling west to east, forms a northern boundary for Cacalilao, Paciencia, El Barco, etc., and runs right along the southern edge of the Tortuga acreage now being tested near Chila station. In short it goes through the middle of the best looking petroleum property in Mexico's northern fields.

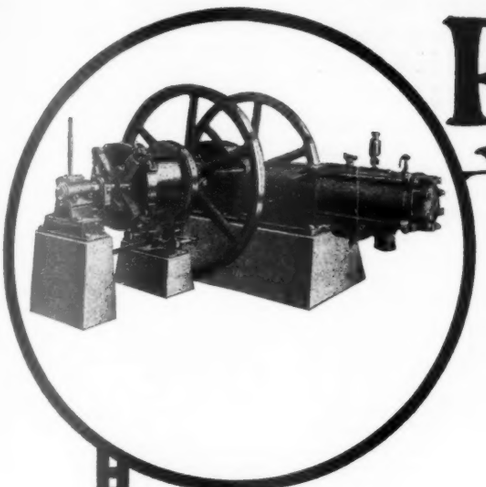
NORTH TEXAS MARKET PRICES SHOW DECLINE

FORT WORTH, Texas, Aug. 9.—The North Texas district refined oil market developed a peculiar condition at the week end. For the seven day period probably double the number of orders were placed compared with the previous week, yet in spite of this increase in demand, prices for both light and heavy oils, made a noticeable decline in price. Gasoline with the exception of the natural product, sold at least one-fourth cent off. Natural gasoline about held its own with a fair demand. Fuel oil lost from 2½ to 5 cents a barrel, the only flurry in this product was caused by many inquiries from cotton gins and oil mills. Kerosene was steady, the refiners refusing to accept any orders at less than last week's quotations. Gas oils were firm in price and scarce.

New Navy Gasoline continued to show a depressed market, with a general decrease of at least ½ cent, with a majority of the sales reported at 7¼ to 7⅜ cents. Buyers were making efforts to force a decrease, but the refiners were firm.

In sympathy with New Navy, 64-66, 375 end point gasoline, developed a bearish condition and sold off to 9 cents, though a majority of the sales were around 9¼ cents a gallon. Refiners stiffened their asking prices at the end of the week, offers of 9¼ cents in several instances being refused. Natural Gasoline was steady to firm, developing a scarcity, which may have a bearing on next week's prices. Grade A was quoted at 7 to 7¼; Grade B, 6⅞ to 7; Grade C, 6½ to 6¾ cents a gallon. With the off season at its peak for fuel oil, it continued to show a distressed condition in demand and price. Around 72½ cents was the general price for all sales, sellers cars, though a few sales for quick delivery, were made at 70 cents.

Kerosene was steady, 4 cents was the market for water white, pure white sold for around 3¾ cents a gallon. Refiners are inclined to hold, as there is but little in stock. Gas oil continues to be scarce, with no fluctuation in price, 2¾ to 2⅞ cents is standard for car lots only.



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VALVELESS GAS ENGINES

There are indeed very few gas engines of which can be said they have "never been down one minute for repairs." The particular FRANKLIN alluded to had been seeing steady service for more than three years when that testimony was made.

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Of three port, two cycle valveless construction, with perfect lubrication and fewer parts than any other typical gas engine FRANKLINS stand up year after year with efficient, smooth, steady performance. They are the real oil field engine.

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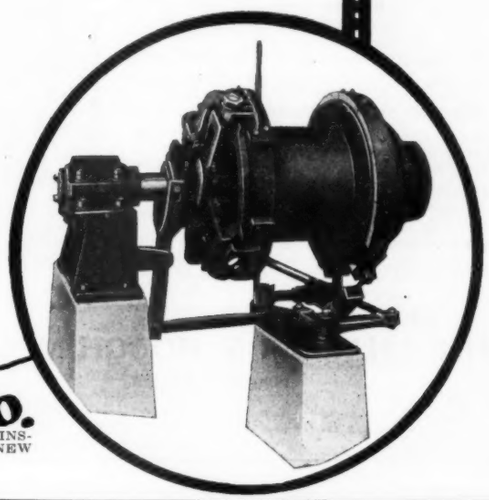

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Here is a stronger hoist, a speedier hoist, an easier running hoist, a hoist with a much longer life, and a hoist with a greater factor of safety.

In fact, the **Wright Improved High Speed Hoist** can best meet all oil field requirements, for the simple reason that it possesses improvements found on no other hoists.

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Here It Is!

The newest addition to the Hough line is the Hough Extension Lower Valve with **oversize** Steelex Ball and Seat. All steel construction; production may be maintained on slower pumping stroke with consequent reduction in power and wear and tear on equipment. No leathers to cut out; smaller amount of cut oil and B.S. Screws into lower coupling—fits any Working Barrel—tapped for gas anchor. See it at your dealers.

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New Colorado Field While Moffat Well Turns Half Water

By F. B. Taylor

CASPER, Wyo., Aug. 9.—Colorado is now in the limelight with a new field and the Moffat Field turning to water. The Whittaker well of the Union Oil Co. of California reached the Dakota sand at 1:30 o'clock, August 8 and the hole started to fill up at once with oil. All kinds of wild reports are heard as to the size of the well, but the hole was shut in when the oil rose to near 3,000 feet and the tools are only in the sand about a foot or two, so nothing authentic can be had until the well is drilled deeper. However, it looks good for 1,000 bbls. or better as it stands and may increase with deeper drilling.

The Moffat Field received a heavy blow the past few days. This field which was confidently expected to become a premier operation of the Rocky Mountain region is now showing for a water development instead of oil. The big discovery well of The Texas Co. was opened last week and responded with a flow of nearly 5,000 bbls. the first day, then it dropped gradually to about 3,500 bbls., later to 2,500 bbls. of fluid, 12½ per cent of which is water and b. s. The water is coming from the Dakota sand, in which the oil was found. It looks like a bad proposition and to top it, the Hogan well on the Illes Dome, southwest of The Texas and Transcontinental well, reached the Dakota sand and came in with a large showing of water and some oil. It looks like a failure.

The water appearance in these two structures is going to kill all chances for extensions far down the sides of the structures as was confidently expected. If these structures are to be found productive, the oil will be rather a small pool near the top of the dome and with the deep drilling and heavy cost of putting down a well, it looks very bad for the future of the Moffat Field at present. Talking with operators interested in that district does not give much hope; these men are disheartened at present and see little hope for a large development there although some of the more optimistic still expect to see a small field developed near the top of the structures that would prove worth while. Also there is still held out the hope that some of the structures still unproven may not carry as much water as the Illes and the Moffat so far drilled. The question uppermost in the minds of many seems to be what the new strike on the Fort Collins Dome by the Union Oil Co. will do. This well is just into the sand a little ways and is showing for a good well. If it later goes on to water, it will condemn almost the whole Fort Collins structure, for the well is located near the axis and also near the center of the long way of the structure.

Discourages Wildcatting

The water in the Moffat Field will hurt oil operations in Colorado all over the State. The cost of operating there is very heavy because the sands that may be productive are deep and can only be reached after enormous outlay of money. There are many parts of the State which contains good looking structures on the surface, but the failure of a promising operation like the Moffat Field would tend to keep the big operating companies from risking much money on wildcats there when other states offer better inducements.

When the well was opened it commenced flowing, making about 4,500 bbls. the first 24 hours and then settled down to about 3,500 bbls. which was considered a good estimate of its production. However, it continued to decrease and shortly water appeared and the well is now steadily increasing its water flow while the oil production continues to decline.

The water appearing in the Moffat Field has thrown a scare into the operators in other districts also and the pessimists are already predicting the appearance of water in the Wellington and Fort Collins wells as soon as these wells are flowed open for a time. This is considered as mere guesswork however for so far there has been no indication of water encroachment on any of the structures in the Wellington or Fort Collins districts.

The Whittaker well of the Union of California, Section 30-8-68, that is showing for a large oil producer, is about 3 miles north and a little east of Fort Collins. It is located in the northwest corner of the section and is known as the Whittaker No. 1. The depth has not yet been made public, but the well is considered to be about 3,800 feet or deeper. This well is on a separate structure from the gas wells at Wellington; the latter are about 14 miles north of Fort Collins on what is known as the Wellington Dome and between the Wellington and Fort Collins Domes lies a smaller structure known as the Douglas Lake Dome where the Union of California is also drilling a well. The Wellington Dome lies about 27 miles south of Cheyenne, Wyo.

The Hogan interests have made a second location on the Illes Dome in the Moffat Field and this location is farther up the structure that the well just finished. It is hoped therefore to get out of the water on the second test. The Yarg and Midwest are each putting down a test on the Illes Dome and the operators interested in the Moffat Field now talk about drilling only a few feet into the sand rather than going all the way through and running the risk of water. There is some hope that by only drilling into the oil pay, a well would not become waterlogged when production started.

OKLAHOMA FIELDS

(Continued from Page 42)

bbls.; Magnolia Pipe Line Co., none; Twin State Oil Co., 2,027 bbls.; Ozark Pipe Line Co., 1,890 bbls.

Tonkawa Production

Following is the daily average production of companies in the Tonkawa Field during the week ended August 6:

Company—	Wells	Bbls.
Amerada Petroleum Corp.	36	1,636
Blackwell Oil & Gas Co.	33	1,743
Carter Oil Co.	6	202
Champlin Refining Co.	2	11
Champlin Refining Co. and Twin State Oil Co.	1	10
Comar Oil Co.	323	16,617
Cosden Oil & Gas Co. and Marland Refining Co.	16	394
Gypsy Oil Co.	97	4,317
Healdton Oil & Gas Co.	27	1,567
McCaskey & Wentz	42	3,867
McMan Oil & Gas Co.	3	14
Pennok Oil Co.	27	4,183
Phillips Petroleum Co.	4	118
Prairie Oil & Gas Co.	12	500
Sinclair Oil & Gas Co.	1	24
Slick and Comar Oil Co.	31	4,347
Southwestern Petroleum Co.	15	715
White Eagle Oil & Ref. Co.	7	244
The Texas Co.	5	33
Total	688	39,556
Total last week	683	38,097
Difference	5	1,459

Daily average pipe line runs from the field were as follows: Kay County Gas Co., 11,125 bbls.; Ozark Pipe Line Co., 9,173 bbls.; Gulf Pipe Line Co., 3,456 bbls.; Champlin Refining Co., 7,956 bbls.; Bolene Refining Co., 625 bbls.; Globe Refining Co., 1,571 bbls.; Producers & Refiners Corp., 508 bbls.; Enid Oil & Pipe Line Co., 786 bbls.; Oklahoma Pipe Line Co., 202 bbls.; Empire Pipe Line Co., 861 bbls.; Golden Rule Refining Co., 540 bbls.; Prairie Pipe Line Co., 1,380 bbls.

The Globe Refining Co. was still running 1,000 bbls. daily from Moore tank farm.

Stroud Production

Following is the average daily production of the Stroud Pool for the week ending August 6:

Company and Farm—	Wells	Bbls.
Amerada Pet. Co., Lewis	6	4,373
Amerada Pet. Co., Welch	1	679
Roxana Pet. Corp., Zollers	6	2,835
Roxana Pet. Corp., Brace	2	590
Roxana Pet. Corp., Coyarka 1	1	429
Roxana Pet. Corp., Hood	2	1,905
Wolverine Oil Co., Jackson 2	2	543
J. A. Hull, Dowell	4	1,479
J. A. Hull, Pettitt	1	318
The Texas Co., Barber	1	142
Union Pet. & Supply Co., Smith	1	607
Union Pet. & Supply Co., Townsite	3	1,315
Waite Phillips Co., Jack	2	2,345
Wood & Farren, Jack	2	1,754
Total	34	18,715

CRUSADER IS REPORTED TO BE PAYING PREMIUM

HOUSTON, Tex., Aug. 9.—Gulf Coast men with production in the heavy gravity section of the Smackover (Ark.) Field, are greatly interested in the entrance of Crusader Oil Co. into that field as a buyer of the heavy gravity crude. It is reported to be paying a premium of 5 cents per bbl. over the posted price of 60 cents and to have advanced producers money on crude in storage.

In this manner it has accumulated approximately 300,000 bbls. in storage and is shipping an average of 2,500 bbls. per day in tank cars to the terminals of the Mexican Petroleum Co. on the Mississippi River, near New Orleans. It is reported here that the Crusader Co. is making a preliminary survey for an 8-inch pipe line from Smackover to the terminals, but pipe line officials here express doubt concerning such a line, saying the present stocks accumulated by the Crusader Co. in the field would not justify the expense of laying such a line.

The activities of the new buyer in the field has had the effect of causing the other pipe lines to rescind recent orders, whereby but 50 per cent of the production was purchased from producers, the balance being run into storage. The lines are now buying the entire runs from lease connections.

BURBANK GASOLINE PLANTS

PONCA CITY, Okla., Aug. 11.—Fifteen natural gasoline plants are now in operation in the Burbank Field in western Osage County, following the starting up of the fifth plant, by the Phillips Petroleum Co. It is estimated about 40,000 cubic feet of rich gas is still being wasted in the field, although a larger proportion of the wet gas in this field is being used than in other flush fields of the Mid-Continent.

TETRA-ETHYL LEAD CLAIMED TO HAVE PROPERTY OF REDUCING AUTO KNOCKS

By Dr. A. P. Bjerregaard
Chief Chemist of the Empire Companies.

Ethyl gasoline is ordinary gasoline containing a small proportion of a substance called Tetra-ethyl lead. It has been found by the chemists of the General Motors Corp. that this substance, tetra-ethyl lead, has the property of reducing or eliminating the so-called knock from the motor when ordinary gasoline is used under conditions that are not favorable.

The knock in the motor is caused by the explosion of the gasoline-air mixture proceeding at too rapid a rate so that the expanded products of combustion, instead of giving a push to the piston, give it a sudden blow. The exact cause of this extraordinarily swift explosion is not known with sufficient accuracy to warrant discussion in this place. But some of the factors which influence the production of knock are known. The two principal factors are: First, too high compression; second, too high end point in the gasoline. A secondary cause of knock is the presence of carbon in the cylinder. This carbon occupies space and thereby increases the compression.

Midgley's Explanation

Thomas Midgley, Jr., the inventor of ethyl gasoline, who has given many years to the study of engine knock and to its remedy gives the following explanation of this phenomenon:

"High pressure sets up a wave in combustion. The wave travels at twice the velocity of sound and the crest of the wave is reached under a pressure that can be measured in thousands of pounds. Hence, the gas is very dense.

"When this wave strikes the side of the combustion chamber, a knock is the result. The knock is not the result of pre-ignition nor is it caused by incandescent carbon particles. The condition is technically known as detonation and the tendency to detonate varies as between different fuels.

The tendency in the paraffin series is for the heavier members to detonate more readily than the lighter members and it is for this reason that the heavy gasoline is more liable to knock than a more volatile product."

Certain substances besides tetra-ethyl lead have the property of decreasing the speed of the explosion and thereby to reduce or eliminate the knock for example, benzol is known to have that effect, but it requires to be present in the amount of at least 30 per cent of the total volume. On the other hand, less than one-tenth of 1 per cent of tetra-ethyl lead is sufficient for gasoline of the present day type.

Crudes a Factor

Blends containing alcohol have been proposed from time to time as substitutes for gasoline. Such blends, if they contain considerable alcohol, would not show a knock because alcohol itself is entirely free from this objectionable quality.

There are some substances which when added to gasoline make the knock worse; among these are ordinary ether. In this connection it may be appropriate to say that, all other conditions being the same, gasoline made from Pennsylvania crude knocks worse in the cylinder than gasoline made from western crude, and that from California crude shows less knock than any other straight run gasoline made in America. These differences are due to the differences in chemical constitution of the components of these gasolines.

Before tetra-ethyl lead was made known by Mr. Midgley, he announced that compounds of selenium and compounds of tellurium had powerful anti-knock properties. These two substances, however, cannot be used commercially on account of the very bad odor which they possess and which is communicated to the exhaust gases. Furthermore, these substances are quite scarce in nature and probably could not be obtained in sufficient quantity to satisfy the demand if all gasoline had to be provided with anti-knock properties.

Possibly larger amounts of these two materials could be obtained if a sufficient demand arose for them, but it has been estimated by Dr. Lenher of the University of Wisconsin, that the present available supply of tellurium is 65 tons per year, whereas the requirement for making all our present gasoline supply anti-knock would require 1,500 tons. Furthermore, while the compounds of selenium and tellurium are nearly as good as lead compounds, tellurium is four times as efficient as selenium and lead is 15 times as efficient as selenium.

The materials entering into the composition of tetra-ethyl lead are common and can be obtained in abundant supply at a low cost. The principal cost of tetra-ethyl lead will be in the cost of manufacture.

Composition of Compound

Tetra-ethyl lead contains about 64 per cent of lead and is a water white oil of specific gravity 1.62 and is miscible in all propertions with gasoline. It has an odor which is not unpleasant and somewhat resembles witch hazel. If left on the skin in the pure state it stings slightly but gives rise to no eruption or permanent burn. It decomposes slowly on exposure to sunlight with the separation of a white precipitat which turns brown and then black and is found to be metallic lead.

In regard to the matter of high compression, automobile engineers tell us that the higher the compression, within limits, the more efficient is the motor

100% More Hole by Proper Heat—Treatment

Lucey Manufacturing Corporation, at Hull, Texas, heat-treated nine chrome bits by the old method—tool dresser guess. Then, they heat-treated one bit in a molten salt bath pot furnace. With this bit, nothing was left to guess. Pyrometer temperature control was used, and critical temperature was tested with a magnet.

This one bit averaged 100% more hole than any of the other nine.

STEWART NO. 0200 POT FURNACE

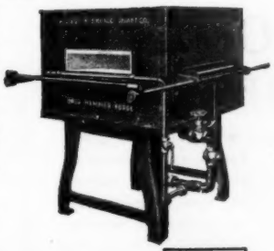
This pot furnace is the type used to harden the tips of bits by immersion in a molten salt bath. It is one of our best sellers because of its adaptability to a large variety of uses. Fired with oil or gas. Special knockdown furnaces for use in the field at the well which can be run off the boiler are now available.

Sizes and prices on application.

STEWART NO. 037 FORGE

A very heavy, sturdily constructed oil burning forge with extra heavy linings. Constructed so that it can be operated in the field on steam or in the shop on air. Special knockdown types for the field.

Sizes and prices on application.



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You can prevent 9 out of 10 fishing jobs by using a Stewart Pot Furnace and molten salts baths. Pyrometer temperature control cuts out costly guess work. This way, the bit is properly heat treated—precise hardness at the point and ductility in the bit body.

This method will save money—it will be necessary to draw your string of tools only half as often and breaks in the hole simmer down to a positive minimum.

A sturdy portable pyrometer can be supplied—which will give an accurate control of temperatures in the field—as well as the shop.

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—hour after hour, day after day,—requiring little or no attention, giving a steady consistent flow of the heaviest crudes, asphalt, tar and all viscous and bituminous products. When you find this condition, it is more than an even chance that it is a KINNEY PUMP.

Thousands of KINNEY PUMPS are telling the same story of consistent efficiency in refineries that dot the map of the United States and foreign fields. Low cost operation, low cost maintenance, trouble-proof service under all conditions,—these are the reasons why so many plants are depending upon KINNEY PUMPS—and why it would be profitable for you to investigate this pump in both its types—steam jacketed and plain.

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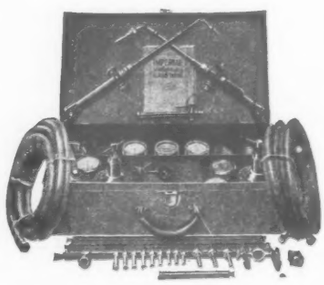

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With this one Imperial outfit, you can handle practically any job—from light sheet metal to heavy work on oil rigs. For every requirement, whether it is making a bailer, welding a flange on a tank, or making special pipe connections and joints, it's the handiest, most efficient and most economical outfit you can use. It stands up, too, under the severest service.

Imperial acetylene generators, portable and stationary types, save five to ten cents per cubic foot of gas. Do away with express charges, long hauls, and expensive delays in receiving cylinders.

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M429

and the greater the mileage that can be obtained per gallon of motor fuel. With the present type of gasoline (say 437-450 end point) the compression cannot be increased above 60-80 pounds per square inch without causing knock, but the addition of tetra-ethyl lead makes it possible to increase the compression to 100 pounds or more without any knock occurring.

In the use of ordinary gasoline the knock is greater, the greater the compression. Also, knock develops when the engine is run slowly and is exerting an unusual effort as in running up hills. The tetra-ethyl lead eliminates both these knocks.

The Patent Situation

The patent situation with respect to the use of tetra-ethyl lead has not yet been cleared up, because the patent for the use of this material for this purpose has not yet been issued by the United States Patent Office. However, the substance in question, namely, tetra-ethyl lead, is old and has been known for many years, so that a patent cannot be obtained on this material itself, but doubtless the patent to Midgley, when issued, will be found to cover the use of mixtures of this substance and similar substances with gasoline, as a motor fuel. Also it is likely, patents will be taken out on new methods of manufacture of tetra-ethyl lead whereby it will be produced at an enormously cheaper price than the methods so far published in the literature.

A sample of ethyl gasoline recently purchased in the open market on analysis showed the following results:

Gravity	59.3
I. P.	118
10%	163
20%	198
30%	226
40%	250
50%	276
60%	298
70%	314
80%	348
90%	382
95%	406
E. P.	430
7.5 mg. cotton used	
Loss %	2
Color	Light Red
(Color not volatile)	
Doctor	Sweet
Corrosion	Non-Corrosive
Sulphur	0.061%
Chloride	0.150%
Corresponding to Carbon Tetrachloride	0.162%
Lead	0.041%
Corresponding to Lead Tetraethyl	0.064%

The carbon tetrachloride is added for the purpose of providing chloride to combine with the lead in order that it may be expelled as lead chloride.

The present sample shows a gosoline of the present day type containing the tetra-ethyl lead; this gasoline will show no great advantage in present day cars expect on bad hills or other bad spots in the road. It is particularly adapted to the new high compression engine.

COASTAL QUOTATIONS REACT ON CRUDE CUT

HOUSTON, Tex., Aug. 9.—The Gulf Coast refined market is in the August doldrums. August is always very slow for movement of lubes, too late for summer trade and too early for winter. September will witness the start of the fall and winter trade. Then the jobbers begin to lay in stocks of Zero cold test oils and most contracts are signed in that month.

Prices held firm all week but when coastal crude was cut Saturday morning 15 cents a barrel the market softened.

Early next week will no doubt register price declines ranging from ¼ to ½ cent on practically all grades of lubes and gas oils.

Fuel oil, selling from $1.60 to $1.70 all week and firm at that price reacted Saturday 15 cents downward in keeping with the price of crude. High and low quotations Saturday forenoon were $1.55 and $1.45 on the standard gulf coast 24-26 grade. Most refiners are contracted for full output.

Gas oil was fairly steady at 4 to 4¼ cents. One or two refiners evidenced a disposition to soften that price by quotations of 3¾ to 4 cents. Like fuel oil, gas oil output is largely contracted for full output of the refineries.

Bell Barrel

Removes Sand Not a Separator

Prevents Cutting Cups Sticking Valves

When a Regular Barrel Fails a **Bell** *is the ONLY Answer*

More BELL Barrels in the Mid-Continent than all other pumps combined.

Guaranteed to Pump Sandy Wells Longer Than Any Other Barrel.

Ask Your Dealer

BELL PUMP CO.
ST. LOUIS, MO. TULSA, OKLA.

Baldwin Heavy Duty Oil Well Chains

In Operation—In Final Cost, Baldwin Chains Are Economy Plus, They Mean Continuous Production

This Superior Design, these High Grade Steels, this Excellence of Workmanship, entering into the construction of **all Baldwin Chains**—why should you know about this subject?

To the user, it means positive assurance that, for (1) ACCURACY, (2) RESISTANCE TO WEAR, (3) MINIMUM STRETCHING (LONG LIFE), (4) NEARLY DUST TIGHT CONSTRUCTION, BALDWIN CHAINS are unsurpassed.

And don't overlook our facilities for the manufacture of ACCURATE SPROCKETS.

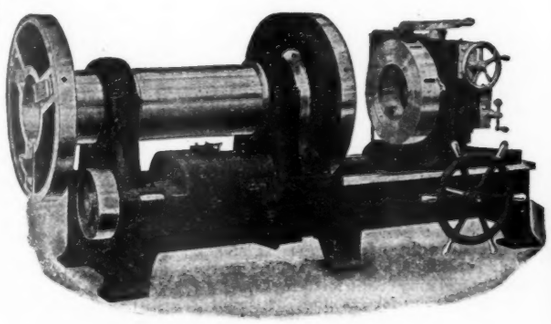
Bulletin No. 28 illustrates the Oil Well Type.

OUR NEW CATALOG G gives complete information, with many interesting illustrations and much valuable Engineering Data.

Baldwin Chain & Mfg. Company
Worcester, Mass. U. S. A.

H. V. Greenwood, General Western Sales Representative, Peoples Gas Bldg., Chicago, Ill.

George J. Fix Company, 815 South Ervay St., Dallas, Texas Adam- Hill Company, 96 Ninth St., San Francisco, Cal. 637 South San Pedro St., Los Angeles, Cal.



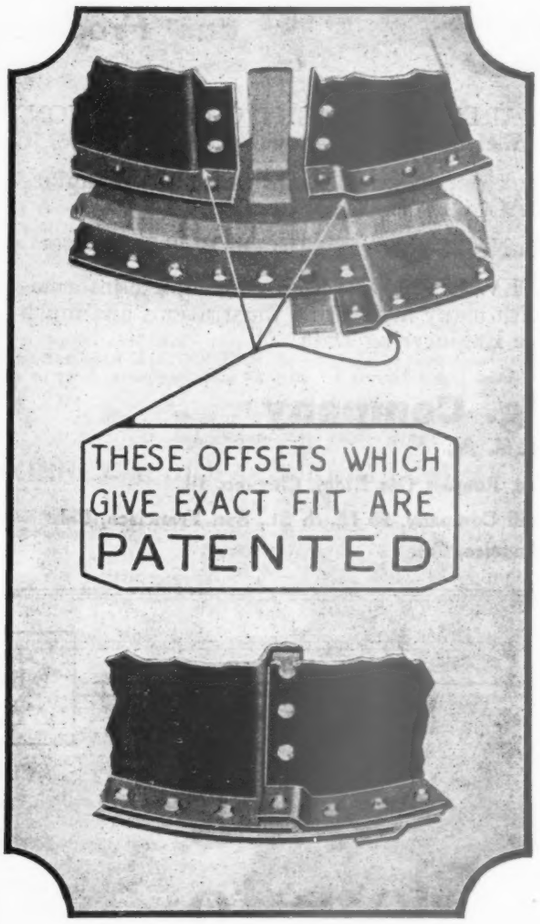
Keeping Close to Mother Earth

The only part of the driving mechanism of this machine above the machine bed, is the Master Gear, and this is bolted securely to the gripping chuck, and is driven by a series of steel gears through which the desired speed changes are obtained.

There is no weak point. Let us quote price.

BIGNALL & KEELER MACHINE WORKS
EDWARDSVILLE, ILL.

Why the Maloney Is *Unique*



The MALONEY is the only bolted steel tank whose parts fit together exactly—so that no tedious and costly calking is necessary. This statement deserves the investigation of careful buyers.

MALONEY TANK MFG. CO.
Offices and Plant: Tulsa, Okla.

12 to 3,000 Bbls., Inclusive

Prompt, Dependable Export Service

150

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY

CHICAGO CONSUMPTION IS CHECKED BY RAINS

(Continued from Page 110)

ing character and the orders are rather limited in size. One of the large north shore utility companies is ordering in single car lots and quite frequently wants its cars delivered quickly but if a car is ahead of time wants a dating on the bill to the day when it is being drawn from the tank. But this is no fault of the buyer but is "orders from the boss."

Lubricants Unchanged

There is little change in the situation in lubricating market. Some dealers claim they note a better demand but the claim is denied by others and it seems to be a matter of who gets the business. That the total business is rather light for the season is the belief of refiners who are supplying the larger trade. There is a lot of complaint at the variation in prices and the way quotations are made to fit the buyers' views. Some state that the grade of oil is made to fit the price. One instance was cited by an established dealer who had been furnishing a manufacturing concern with a high grade oil for years. A newcomer in the city obtained a sample of the oil and made a price of 5 cents less than the buyer had been paying guaranteeing the quality to be the same. The first two or three deliveries were all that was claimed for the oil but the price was just cost, according to the original seller of the oil. Then there was a slight letting down in the quality, then another decline in the grade and now the original seller is asked to supply a lot of the original grade for comparison. He declined unless he could have a contract for the year.

Road oil dealers state the wet weather has slackened the demand for road oils and many municipalities are only taking their minimum requirements. This is going to leave more road oil in the tanks of sellers than anticipated and the market is rather soft.

Tank Wagon Cuts

Tank wagon cuts have been less numerous since the second reduction in tank wagon prices but they are still being made and the battle for business between the new comers and the established jobbers is still being fought out. A typical case was related by a large jobber in the Northwest. In his city there were practically all of the national organizations and a number of established independent jobbers. There had been no serious trouble although a small station dealer who started some time ago was suspected of giving rebates and otherwise cutting the market but the trade ignored him. An auto tire dealer who had been trying to build a business by the cut price method and had succeeded in reducing the price to a point where there was no money in the business put in a filling station and not getting any run of business came out with an announcement of a 2 cent cut in the price of gasoline in the papers claiming credit for being the cause of lower prices for gasoline. It is stated farmers have been known to drive 20 miles to save a cent a gallon on a fill of gas and he began getting the trade. The smaller jobber met the cut and the original cutter made another reduction. Then the older companies awoke to the fact that the two price cutters were getting all of the credit and much of the business and they came down to a point where they felt the bottom had been reached but the price cutters with their small overhead kept the prices going down until gasoline was and is selling in that particular city at less than the cost at Group 3 refineries plus the freight to destination. This is a typical case. There are hundreds of them. Another instance is related by an oil salesman in an Iowa river town. The price was 15 cents at the station but gasoline could be purchased from the tank wagon by motorists in five gallon lots at 13 cents. In another the station price was held in the city limits but by driving over the line the gasoline could be bought from the wagon at a discount.

Locally there is active competition and some bootlegging but the acquiring of station sites is going on and the larger companies are strengthening their position against the day when prices will be uniform and the main question for the station will be service. The larger companies are anticipating the growth of the city and acquiring sites in the outlying districts where the promises of growth are best.

KANSAS FIELDS

(Continued from Page 40)

Boggs Brothers & Collins' No. 1 Harris, NE cor. SW SW, Section 17-31-6, was abandoned as dry at 3,007 feet. Terrian & Bellaire's No. 1 Baldock, SE cor. Section 32-31-6 was dry and abandoned at 3,023 feet.

The Watchorn Oil & Gas Co.'s No. 1 Keithley, NW cor. NE NE, Section 36-32-4 was not completed, but it made 45 bbls. the first 12 hours from sand at 3,104-06 feet. It drilled into water at 3,104-06, total depth. The Southwestern Petroleum Co.'s No. 1 Allen, SE cor. SW NE, Section 18-32-4 may be abandoned. It had a small showing of oil at 3,106-08 feet.

In Elk County the Sinclair Oil & Gas Co. has a rig up for No. 2 Porter, NE cor. SE NE SE, Section 11-29-8, Elk County, and Roth and others have a rig up for No. 7 Porter, SE cor. SW SE SW, Section 12-29-8. Anderson Brothers' No. 1 Wood, C SW SE, Section 16-29-9, is dry at 2,320 feet. The Ohio Fuel Co.'s No. 2 Smith, C NW NE Section 28-29-9, is drilling at 300 feet.

The National Union Oil Co.'s No. 1 Talmadge, SE cor. SW SW Section 16-33-1e, will be drilled to 2,100 feet with a machine. It is in Sumner County.

The Pure Oil Co.'s No. 1 Henley, CEL W half SE, Section 4-25-9, Greenwood County, had a small showing at 2,137-68 feet and was abandoned at 2,226 feet. The Arkansas Fuel Co.'s No. 5 Marshall, C SW SW Section 1-24-9, was dry at 2,450 feet. Rogers, Revelly & Co.'s No. 2 Hendrickson, SE cor. NE SE, Section 22-24-9, was shot with 140 quarts at 2,144-2,214 feet and started at 400 bbls. Henderson & Holden's No. 1 Halstead, C SE NW SE, Section 11-23-10, was dry at 2,300 feet. Roth Faurot and the Mission Oil Co.'s No. 1 have a 75-bbl. well in the CSL SE, Section 29-23-10. It was a 75-bbl. well in sand at 2,276-2,336 feet. The Mid-Kansas Oil & Gas Co.'s No. 4 Martindale, SE cor. NE, Section 31-23-10 was good for 200 bbls. after a 240-quart shot at 2,256-2,339 feet.

Tom Miller's No. 1 Kerr, NW cor. NE, Section 26-26-8, had a hole full of water at 2,810-30 feet.

The Fisher Oil Co. was drilling at 200 feet in No. 1 Chamberlain, NW cor. SW Section 11-33-10, Chautauqua County.

Streater & Stearns were still shut down at 3,290 feet with a showing of oil at 3,285-90 in No. 1 Brown, NE cor. SW Section 21-19-12w, Barton County.

Dick Davidson and the B. F. G. Oil Co. were drilling at 450 feet in No. 1 Schwartz, NW cor., Section 34-25-6, Butler County.

Rich and others' No. 2 Brewer, SW cor. SE SW, Section 23-28-6, made a 150-bbl. initial producer after a 20-quart shot at 2,427-47 feet. It was plugged back from 2,900 feet.

Page & McKay's No. 1 Wiggam, SW cor. SE SE, Section 32-32-10, Chautauqua County, got Peru sand at 1,505-35 feet with a showing and Bartlesville at 1,624-36 feet. It was good for 5 bbls. a day naturally.

The Pulaski Oil Co.'s No. 1 Wiley, NE cor. SE, Section 9-34-9, Chautauqua County, got sand at 2,122 feet and was drilling at 2,137 feet with a showing of 5 bbls. a day.

The Derby Oil Co. is drilling No. 1 Masters, NE cor. SE SW, Section 4-23-2, Harvey County at 300 feet.

The Mission Oil & Gas Co. and the Prairie Oil and Gas Co.'s No. 1 Hull, NE cor. NW, Section 34-23-10, Greenwood County, was drilling at 300 feet.

SIGNAL HILL GASOLINE PLANT

LOS ANGELES, Cal., Aug. 9.—The Santana Gasoline Corp. has finished its first plant at Signal Hill, Long Beach, Calif. The plant was built by the Kyle Construction Co.

Some One Can Use It

The manufacturers and supply companies furnish the oil industry with strong and durable equipment built to withstand severe usage.

As your organization expands and you need new and larger equipment to take place of the old, do not rush your good used equipment to the junk pile.

Some One Can Use It

Thousands of men read the Classified Wants Section every week. They would be glad to pay for the good equipment that is being discarded.

Never discard any good used equipment before trying to sell it through the Classified Wants Section of The Oil and Gas Journal.

Write a simple description of the used equipment you would like to sell and mail it to the Classified Wants Section. It will help you.

CLASSIFIED WANTS SECTION

"Biggest in America"

PIPE LINE OFFICIALS VISIT REAGAN COUNTY

SAN ANGELO, Tex., Aug. 9.—A boost in the price of proven acreage and the appearance in San Angelo of officials of the Gulf Production Co. for the southwest and representatives of the Prairie Pipe Line Co. are features of the oil situation here.

The representatives of the two companies left for Big Lake, Reagan County, with Levi Smith, president of the Big Lake Oil Co., and it is believed that some deal may be on for crude produced from Reagan County. The Gulf has reserved two offices in the Central National Bank Building here.

The Orient sent out rails and ties to build the Texon loading racks which were definitely located by A. J. Cleary, Orient superintendent, and Frank T. Pickrell, Texon general manager.

The Big Lake No. 11 is steadily incresing its flow. For the last 24 hours 3,648 bbls. of oil flowed from it. The total production of No. 11 is now about 15 cars a day.

Mr. Pickrell said the Texon No. 1 would be the equal of any in the field and that No. 2, now shut down on top of the lime, would be equally as good. No. 1, with the bit only 6 inches in the sand, and No. 2 will not be drilled in until storage is provided. At present there are two 250-bbl. tanks at No. 1 and officials are making arrangements for two 1,000-bbl. tanks on the Orient right-of-way as well as providing for loading facilities.

ECUADOR PRODUCTION, REFINING AND STORAGE

The monthly production of the five producing wells in Ecuador is about 5,000 bbls., yielding about 30 per cent of benzine, about 58,000 gallons. It is stated that 15,000 gallons of crude oil per month is sent to Guayaquil for refining. A distillation analysis of 494 gallons of crude oil from No. 5 well is reported to have yielded 112 gallons of benzine, 150 gallons of kerosene, 72 gallons of paraffin, and 150 gallons of residuals. The Anglo-Ecuadorian Co. possesses a refinery in Ancon of a monthly capacity of 15,000 gallons of crude oil, and has tank storage for 20,000 gallons of crude oil, 20,000 gallons of benzine, and 30,000 gallons of paraffin.

In La Libertad, on the north side of the peninsula, about 10 miles from Ancon, is a new harbor opened with a quay 360 feet long and 16 feet broad. There is about 30 feet of water in this harbor. Tank accommoiatdons at this place consists of two tanks 90 feet in diameter and 30 feet high, which together have a capacity of from 35,000 to 50 000 gallons. Between Ancon and La Libertad, a distance of 14 miles, a railway is under construction and a 6-inch pipe line is being laid down. It is expected to commence shipping oil as soon as these works are completed.

NEW OIL CAPITAL

The capital investment in new petroleum companies in the month of July totaled $57,135,000 for the 31 companies which were formed during the month. This compares with 33 companies chartered in June, with an aggregate capitalization of $20,574,000 and 42 in May with a total capitalization of $34,315,000. The largest of the new concerns was Roeser & Pendleton, Inc., which was chartered in Delaware with a capital of $20,000,000.

WITHDRAWING IN RUMANIA?

An important sequel to the enactment of the Rumanian mining bill, it is reported in London, is the withdrawal from collaboration with the Government in working the oil fields, of an international syndicate. Included in the memorandum of withdrawal are American, British, Dutch, Belgian and French groups. This will discourage British investment in Rumanian oil lands.

COPPER is the anti-toxin for sheet metal rust. Properly proportioned, it puts into steel for tanks and sheet metal products a new measure of endurance and resistance to rust that cannot be attained without its help. Experience proves that

Keystone Copper Steel

Gives Unexcelled Service and Rust-resistance

For Tanks

KEYSTONE COPPER STEEL

The increased life of copper steel is a well established metallurgical fact. Ask your manufacturer to supply you tanks made of Keystone quality.

Keystone Copper Steel is an alloy made by the addition of a certain percentage of Copper to well-made Steel, thereby greatly increasing its lasting qualities under actual service conditions. It is unexcelled for roofing, siding and construction purposes, as well as for culverts, flumes, tanks, barrels, and all oil country uses. Sold by leading metal merchants. Send for booklet, "The Testimony of a Decade," proving its marked superiority in service.

Apollo GALVANIZED SHEETS

Recognized as the standard of quality since 1864. APOLLO-KEYSTONE Galvanized Sheets with the copper steel alloy base are unequaled for Culverts, Flumes, Silos, Roofing, Siding, Spouting, Gutters, Cornices and all forms of exposed sheet metal work demanding superior rust resistance. Write for Apollo booklet.

Tin Plates

High grade roofing plates, carefully manufactured in all details. Also American Coke and Charcoal Bright Tin Plates.

Black SHEET PRODUCTS

American Bessemer Steel Sheets, American Open Hearth Steel Sheets, Keystone Copper Steel Sheets, Automobile Sheets—all grades, Special Sheets for Stamping, Electrical Sheets, Stove and Range Sheets, Japanning and Enameling Stock, Steel Barrel and Keg Stock, Ceiling Sheets, Black Plate, Etc., Etc.

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Oil Securities Strong With Market

Practically All Shares Have Registered a Gain in the Past Few Weeks Despite Continued Confused Conditions in Trade

By N. O. Fanning
Room 543, No. 30 Church St., New York

NEW YORK, Aug. 9.—Oil securities have been strong with the general market during the past week. At times considerable activity has been noted in the speculative issues with substantial gains in quotations and while this has attracted some attention to the petroleum stocks as a class there has been nothing that could be described as petroleum leadership in the market. This is due to the continued confused condition in the trade, unfavorable news mingling with the good. It is noteworthy, however, that practically all oil stocks have registered good gains over the last few weeks. In many respects the advance in oil stocks may be termed similar to advances in other classes of industrials. There has been no fundamental change in industrial conditions generally, but with the great reversal in the farmer's situation, the prospects of early improvement in foreign affairs and these factors operating to minimize the uncertainties of the Presidential election, the continued rise in securities generally can be attributed to reasonable prospect that the turn in the situation will be felt sooner or later, and at least by the late fall, in practically all lines of industrial endeavor.

Tide Water Oil Co.

The Tide Water Oil Co .reports for the six months ended June 30, 1924, surplus of $3,323,116 after expenses, federal taxes, depreciation and depletion, equal to $6.64 a share earned on the $50,003,700 capital stock. This compares with surplus of $3,036,435, or $6.11 a share, earned on $49,678,400 outstanding capital stock in the corresponding period of 1923. The consolidated income account of the six months compares as follow:

	1924	1923
Operating income	$6,179,138	$4,359,157
Other income	290,667	660,938
Total income	$6,469,805	$5,020,095
Deprec. and depletion	2,694,762	1,998,710
Net income	$3,775,043	$3,021,385
Outside stockholders property	*19,953	*15,050
Federal taxes	471,880	.....
Surplus for s'tkholders	$3,323,116	$3,036,435
Dividends	1,000,057	.....
Surplus	$2,323,059	$3,036,435
Profit and loss surplus	21,379,559	20,330,498

*Debit.

Texas Pacific Coal & Oil Co.

The Texas Pacific Coal & Oil Co. reports for the six months ended June 30, 1924, net income of $1,267,858 before depreciation and depletion. The report compares as follows:

	1924	1923
Gross	$3,186,155	$3,180,885
Expenses	1,880,986	1,464,416
Operating profit	$1,305,169	$1,716,470
Other income	71,008	42,544
Gross income	$1,376,177	$1,759,014
Deductions	108,319	.....
Net income before depreciation and depletion	$1,267,858	.....

General Asphalt Co.

The General Asphalt Co. reports trading profit on its combined subsidiaries for six months ended June 30, 1924, of $966.500. After deducting debenture interest, depreciation and all other usual reserves, net profit was $534,000 compared with $270,000 for the same period of 1923, an increase of $264,000.

Skelly Oil Co.

The report of the Skelly Oil Co. and subsidiaries for the six months ended June 30, 1924, shows net income of $1,499,945 after interest, depreciation and depletion, but before federal taxes, equivalent to $1.82 a share earned on the $20,579,090 outstanding capital stock of $25 par value. This compares with $4.329.970 after interest, etc., but before depreciation, depletion and federal taxes in the first half of 1923. The income account compares as follows:

	1924	1923
Gross	$9,668,220	$11,720,118
Expenses, general taxes dry holes, etc.	5,087,758	7,005,503
Net earnings	$4,580,462	$ 4,714,615
Interest and discounts	465,946	384,645
Depreciation and depl.	2,614,571	.....
Net income before federal taxes	$1,499,945	$ 4.329,970

Phillips Petroleum Stock Offer

Directors of Phillips Petroleum Co. have authorized an issue of 370,133 shares of no par stock to be offered to stockholders at $32 a share, bringing the total capitalization up to 1,850,666 shares. The purpose is to reimburse the treasury for capital expenditures heretofore made and to pay off current indebtedness which has been incurred through the development of the properties.

In a letter to stockholders outlining the offering, President Frank Phillips states company's stock of crude oil on June 30 was somewhat under high point of the year. "The company is in a position," he says, "to store its major production during periods of congestion or low prices and some oil is now being stored. Gasoline production is all being sold and stocks are being substantially reduced."

The company's producing properties have been extended and in first six months of 1924 had net production of 4,869,340 barrels of crude oil. This was an average of 27,000 barrels daily. Casinghead gasoline operations have been expanded through purchase and construction of eight additional plants which, when consolidation of those acquired and those building are completed, will give Phillips 20 natural gasoline plants with production of about 225,000 gallons daily.

After giving effect to this financing, balance sheet as of June 30 will show approximately $20,300,000 of current assets and $868,000 of current liabilities, a ratio of better than 20 to 1. Earnings for the first six months, after deducting interest, federal taxes, depreciation and depletion, were $6,166,951, equal to $4.16 a share on the stock outstanding June 30.

Mexican Seaboard Oil Co.

The Mexican Seaboard Oil Co., for the quarter ended June 30, reports gross sales of $2,677,282, against $1,295,760 in the corresponding period last year, and net profit of $1,096,416 after expenses, but before providing for depletion and tax reserves. In the same quarter last year the company reported a deficit of $21,265 after the same deductions.

Pennok Oil Co.

Pennok Oil Co. for six months ended June 30, 1924, reports net income of $654,270, after depreciation, depletion and all charges except federal taxes, equivalent to $1.74 a share erned on 375,000 shares of no par capital stock. This compares with net income of $1,818,861 or $4.84 a share in first half of 1923.

Associated Oil Co.

For six months ended June 30, 1924, Associated Oil Co. reports surplus of $4,434,007 after interest, federal taxes, depreciation, depletion, etc., equivalent to $1.98 a share (par $25) earned on $56,000,000 outstanding capital stock. This compares with $2,253,072 or $1.41 a share on $39,755,725 capital stock (par $25) in first half of 1923.

Consolidated income account for six months ended June 30, 1924, compares as follows:

	1924	1923
Income after operating expenses	$8,698,627	$4,613,043
Taxes and interest	1,773,988	823,100
Net profit	$6,924,639	$3,790,045
Reserved for depreciation, depletion, etc.	2,490,632	1,537,073
Balance	$4,434,007	$2,253,072

In his remarks accompanying the report for six months, Paul Shoup, president of Associated Oil Co., says: "The increase in the balance carried to profit and loss of $1,113,574, compared with the first six months of 1923, was due chiefly to the increases in the market prices of gasoline and fuel oil. Refined oil sales increased 38.54 per cent and fuel and refinable crude oil sales 6.29 per cent in quantity over the same period last year. In making the foregoing comparisons, operations of Amalgamated Oil Co. for six months ended June 30, 1923, have been included.

"During the period the company acquired the following proven and prospective oil land: 255.31 acres of fee lands, 1,192.74 acres under lease and a half interest in an additional 1,497.25 acres under lease. Included in the last is Texas property known as the Garcia lease, on which are eight producing wells and other improvements. The other half interest in this acreage was taken by Pacific Oil Co. Associated Oil has 20 strings of tools in operation in California, Texas and Alaska."

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

No.	Stock—	Par	§Dividend Rate	Closing Quotations Aug. 11.	Aug. 4	Range 1924 High	Low
1.	American Republics	..	..	*40	*40	42	25
2.	Associated Oil	25	6	28⅝	*29½	34⅝	27⅝
3.	Atlantic Refining, common	100	4	88½	89	140⅛	78⅛
4.	Barnsdall "A"	25	..	19¾	20½	21⅝	14
5.	California Petroleum, common	25	7	22¼	23⅝	29¼	21⅝
6.	Cosden & Co., common	..	..	27½	29	40¼	23¼
7.	General American Tank	..	†3	42	42	46¾	36½
8.	General Asphalt	100	..	44	44	49	31⅝
9.	General Petroleum	25	8	42¼	45	48	38⅝
10.	Houston Oil	100	..	69½	72⅝	82½	61
11.	Independent Oil & Gas	10	..	7⅝	8	9¼	6⅝
12.	Indian Refining	10	..	*6	*6	7	3⅝
13.	Invincible Oil	50	..	11⅜	13	15⅞	11¾
14.	Maracaibo	..	..	29	31½	37⅞	25⅝
15.	Marland	..	..	31¼	33	42	29
16.	Mexican Seaboard	..	..	20⅝	21½	24½	14½
17.	Middle States Oil	10	..	1⅝	1½	6⅜	1½
18.	National Supply	50	6	*57	59	72½	55¼
19.	Pacific Oil	50	†2	47⅞	50	58⅜	45
20.	Pan-American common	50	16	56	57½	61¼	44¼
21.	Panhandle Prod. & Ref.	..	..	*2½	*2½	4½	2¼
22.	Phillips Petroleum	..	†2	34⅜	36⅞	42¼	32⅜
23.	Producers & Refiners	50	..	31	31⅝	43½	22⅝
24.	Pure Oil common	25	6	23¼	24⅝	26⅜	20
25.	Royal Dutch, N. Y. sh.	13.40	2.62	44⅝	42⅞	59¼	41½
26.	Shell Transport	10	x92½	*35½	*34⅜	41½	33
27.	Shell Union, common	..	†1	16½	17¼	20⅛	15⅜
28.	Simms Petroleum	10	..	13⅜	14¼	14⅞	10⅜
29.	Sinclair Consolidated, common	..	†2	17⅛	17½	27½	15
30.	Skelly Oil	25	..	18⅜	20⅜	29	17⅜
31.	Standard of California	25	8	58⅜	60	68⅛	55⅛
32.	Standard Oil of New Jersey	25	4	36½	36⅛	42½	33
33.	Standard of New Jersey, pfd.	100	7	118	*118½	118⅝	115⅝
34.	Superior Oil	..	..	6	7⅝	8⅛	2⅝
35.	The Texas Co.	25	12	40⅜	41	45⅝	37⅜
36.	Texas Pacific Coal & Oil	10	..	9⅛	10⅜	15⅛	8¼
37.	Tide Water Oil	100	4	*122½	127⅞	151	118¼
38.	Transcontinental	..	..	5	5⅝	6¼	3⅜
39.	Union Tank, common	100	5	118	*119	121½	94
40.	White Eagle Oil & Refining	..	2¼	23⅜	*23⅜	29⅜	23⅛
	Standard Oil Stocks						
41.	Anglo-American Oil	£1	25	15	15½	18	14⅜
42.	Borne Scrymser	100	12	215	*210	264	150
43.	Buckeye Pipe Line	50	14	60	61	85½	60
44.	Chesebrough Mfg., common	25	11	49⅝	*50	43¾	29½
45.	Continental Oil	25	8	*43	*43½	54⅞	42½
46.	Crescent Pipe Line	25	..	11½	11½	20	11½
47.	Cumberland Pipe Line	100	10	*144	*144	144	109
48.	Eureka Pipe Line	100	8	*95½	*95	105	95
49.	Galena-Signal common	100	4	*57⅞	*58	69⅝	55¼
50.	Humble Oil & Refining	25	4.8	36	36½	43⅜	36
51.	Illinois Pipe Line	100	12	*132	*132	161	131
52.	Imperial Oil, Ltd.	25	12	102	107	119	99
53.	Indiana Pipe Line	50	16	90	92½	100	85
54.	International Petroleum Co.	100	x50	19	20⅝	22¼	16⅞
55.	Magnolia Petroleum Co.	100	4.5	*132	135	160	124
56.	National Transit	12.50	16	*21½	*21½	25⅞	21¼
57.	New York Transit	100	10	*64	*63	97	69
58.	Northern Pipe Line	100	6	*83½	*83	107½	80½
59.	Ohio Oil Co.	25	8	58⅜	61⅝	79½	58
60.	Penn-Mex. Fuel	25	..	33⅜	34½	46⅝	32¼
61.	Prairie Oil & Gas	100	8	212	217	269	194⅜
62.	Prairie Pipe Line	100	8	107	*106	111	100
63.	Solar Refining Co.	100	15	*182	189	225	170
64.	Southern Pipe Line	100	16	94	93⅛	100	89⅛
65.	South Penn Oil	100	..	130	*138	176	117
66.	South West Pa. Line	100	8	*86	*87	89	80
67.	Standard of Indiana	25	10	57⅝	59	58⅜	54¼
68.	Standard of Kansas	25	10	35⅜	41	50½	35⅜
69.	Standard of Kentucky	25	16	111⅜	115¼	120	101
70.	Standard of Nebraska	100	20	248	*247	256½	198
71.	Standard of New York	25	5.6	39⅛	41	48	37¾
72.	Standard of Ohio, common	100	10	*282	297	236	277
73.	Swan & Finch	100	..	*42	*49	81	34
74.	Vacuum Oil	25	10	64	66½	69¼	56½
75.	Washington Oil	10	10	28⅛	*28	29	25
	Miscellaneous Stocks						
76.	Cities Service, bankers' shares	..	†21	*13	*14	16	13¼
77.	Gulf Oil Corp. of Pennsylvania	25	6	59½	*59¾	65	56⅝
78.	Mutual Oil	5	10	11⅛	*10⅞	14	9⅝

*Bid, no sales. †In dollars. §The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

Aug. 11	47.48	July 7	46.28	June 3	48.88	
Aug. 4	49.71	June 30	47.69	May 27	49.01	
July 28	47.86	June 23	46.92	May 20	48.25	
July 21	48.28	June 17	47.94	May 13	48.24	
July 14	46.96	June 10	47.63	May 6	49.59	

Here is a Break-Out Tongs with Exclusive Features

The Genuine Williams' "Vulcan" Break-Out Wrench, known to a great host of drillers as "Maud," provides exclusive features and advantages. No other tongs approaches it in general efficiency, durability, and economy. Note the construction of this rugged, powerful tool:—

Short, Sturdy Handle

The handle, five feet long, is forged from stiff, strong steel and defies breakage.

Jaws Can't Spread

The jaws are fastened with extra size through bolt and nut; they can't work loose, or spread.

Suspension Clamp and Tackle Eye

A suspension clamp is provided as illustrated; the sturdy eye, forged on end of handle, is of ample size for tackle.

Proof-tested Chain

Each individual "Vulcan" Chain is proof-tested on a standard tension machine; to it is then attached a leaden seal, illustrated below. Look for this Mark of Proof for it is Proof of Quality—it guarantees dependable service and safety to the operator. Williams Chain Wrenches were the first pipe wrenches that offered this proved and certified strength and security.

Why tolerate tongs of less strength and shorter life?

J. H. WILLIAMS & CO.

"The Wrench People"

New York **BUFFALO** Chicago

MARK OF PROOF — PROOF OF QUALITY

WILLIAMS

SUPERIOR DROP-FORGED TOOLS

"VULCAN" BREAK-OUT WRENCH

COMMONLY KNOWN AS "MAUD"

If You're Hard on Wrenches, Try a

Trimo

Eight Sizes
6 ins. to 48 ins.

The TRIMO Pipe Wrench is always ready to tackle the toughest job. You can "treat it rough."

The TRIMO is the strongest wrench made.

It Never Wears Out

Insert jaw in handle and all other parts may be easily and cheaply replaced when worn, making the TRIMO the most economical wrench as well as the strongest.

Get the most wrench for your money. Ask your dealer for a TRIMO.

TRIMONT MFG. CO.
Roxbury, Mass.

TRIMO

7098

REFINERY STATISTICS FOR THE MONTH OF JUNE, 1924

(Continued from Page 25)

	Coke (tons)	Asphalt (tons)	Other Fin. Prod. (gals.)
East Coast	10,081	70,946	7,069,421
Pennsylvania	146	2,386	2,657,641
Ind'ana and Illinois	7,803	6,346	20,786,635
Oklahoma and Kansas	6,531	244	4,231,633
Texas	2,874	16,377	190,179
Louisiana and Arkansas	1,052	16,264	21,155,769
Colorado and Wyoming	10,935	5,872	1,197,023
California	.....	18,010	328,989
Total United States	39,422	136,435	57,617,290
Total U. S. March 31, 1923	32,867	118,986	26,542,061
Texas Gulf Coast	2,874	16,377	21,798
Louisiana Gulf Coast	514	16,154	2,664,849

STOCKS AT REFINERIES IN THE UNITED STATES

Revised figures for April 30, 1924.

Oils to be run to stills (bbls.):	Crude Oils—Dom.	Crude Oils—For.	Unfin. Oils—Dom.	Unfin. Oils—For.	Total Oils to Be Run to Stills
East Coast	7,484,194	2,958,255	5,682,698	80,229	16,205,376
Pennsylvania	1,351,972	.....	850,604	.....	2,202,576
Indiana and Illinois	1,460,688	.....	2,427,786	.....	3,888,474
Oklahoma and Kansas	5,362,759	.....	1,714,154	.....	7,076,913
Texas	6,322,352	852,958	5,043,936	548,943	12,768,239
Louisiana and Arkansas	5,636,760	1,698,283	1,978,652	216,065	9,529,760
Colorado and Wyoming	1,246,882	.....	1,855,833	.....	3,102,715
California	5,635,651	.....	12,262,881	.....	17,398,532
Total United States	34,501,258	5,509,496	31,816,594	845,237	72,672,585
Total U. S. April 30 1923	23,353,771	7,989,399	25,767,583	87,340	57,198,093
Texas Gulf Coast	4,863,656	852,958	4,444,812	548,943	10,710,369
Louisiana Gulf Coast	5,366,099	1,698,282	1,826,139	216,065	9,106,586

Products:	Gasoline (gals.)	Kerosene (gals.)	Gas and Fuel Oils (gals.)	Lubricants (gals.)	Wax (lbs.)
East Coast	376,700,091	79,457,603	173,703,602	98,082,483	39,780,372
Pennsylvania	45,650,672	14,756,544	22,575,200	29,944,870	16,908,457
Indiana and Illinois	229,182,317	27,540,206	64,503,377	23,948,247	16,604,058
Oklahoma and Kansas	236,000,679	20,377,806	119,320,872	14,968,044	2,811,847
Texas	167,952,340	60,330,905	297,175,646	54,719,469	8,862,785
Louisiana and Arkansas	135,557,953	48,062,953	74,329,840	6,801,641	23,548,263
Colorado and Wyoming	172,348,509	3,986,127	28,040,113	5,437,619	2,491,685
California	262,476,568	34,452,828	766,688,556	17,145,071	1,969
Total U. S.	1,625,869,129	288,964,972	1,536,337,206	251,047,444	111,009,436
Total U. S. April 30, 1923	1,336,417,871	273,005,180	1,272,978,330	234,700,221	180,257,366
Texas Gulf Coast	142,028,142	42,188,181	241,717,630	54,267,493	8,778,253
La. Gulf Coast	129,817,748	47,315,886	64,588,415	6,202,805	23,548,263

	Coke (tons)	Asphalt (tons)	Other Fin. Prod. (gals.)
East Coast	10,855	75,061	10,550,610
Pennsylvania	186	2,119	1,999,957
Indiana and Illinois	9,890	7,149	21,691,972
Oklahoma and Kansas	7,577	254	4,634,973
Texas	3,161	19,638	30,240
Louisiana and Arkansas	1,519	17,442	25,996,749
Colorado and Wyoming	12,856	5,582	213,247
California	.....	19,537	852,718
Total United States	46,044	146,782	65,969,566
Total U. S. April 30, 1923	28,984	148,401	32,048,120
Texas Gulf Coast	3,101	19,638	.....
Louisiana Gulf Coast	789	17,442	2,839,833

STOCKS AT REFINERIES IN THE UNITED STATES

May 31, 1924

Oils to be run to stills (bbls.):	Crude Oils—Dom.	Crude Oils—For.	Unfin. Oils—Dom.	Unfin. Oils—For.	Total Oils to Be Run to Stills
East Coast	7,574,994	3,009,622	6,160,179	84,368	16,829,163
Pennsylvania	1,206,216	.....	849,411	.....	2,055,627
Indiana and Illinois	1,486,055	.....	2,366,164	.....	3,852,219
Oklahoma and Kansas	5,276,595	.....	1,784,022	.....	7,060,617
Texas	*6,691,065	906,983	4,978,461	443,523	*13,020,032
Louisiana and Arkansas	*5,819,716	*1,476,318	2,011,756	220,434	*9,528,224
Colorado and Wyoming	1,303,773	.....	1,815,281	.....	3,119,054
California	5,773,802	.....	12,260,512	.....	18,034,314
Total United States	*35,132,216	*5,392,923	32,225,786	748,325	*73,499,250
Total U. S. May 31, 1923	24,790,998	6,719,890	26,863,104	664,347	59,038,339
Texas Gulf Coast	5,275,920	906,983	4,531,241	443,523	11,157,667
Louisiana Gulf Coast	5,505,256	1,451,943	1,834,687	220,434	9,012,320

Products:	Gasoline (gals.)	Kerosene (gals.)	Gas and Fuel Oils (gals.)	Lubricants (gals.)	Wax (lbs.)
East Coast	372,343,257	83,044,483	168,254,106	90,495,754	45,696,430
Pennsylvania	46,275,772	13,338,388	25,417,095	32,633,740	18,022,497
Indiana and Illinois	226,021,715	24,469,139	52,791,569	24,806,596	15,749,236
Oklahoma and Kansas	231,786,387	19,281,372	127,869,529	15,825,147	2,979,018
Texas	*171,790,153	*65,917,764	*286,164,939	54,141,482	8,832,210
Louisiana and Arkansas	*150,663,323	56,061,040	*75,342,488	7,759,098	19,220,559
Colorado and Wyoming	180,028,965	3,465,890	29,952,576	4,477,877	2,448,349
California	272,044,183	38,427,661	788,870,864	13,592,712	.....
Total U. S.	*1,649,953,755	*304,005,726	*1,555,662,866	243,732,406	112,948,299
Total U. S. May 31, 1923	1,328,533,247	272,672,284	1,246,662,180	226,288,516	178,870,450
Texas Gulf Coast.	146,919,371	44,300,505	229,844,320	52,997,991	8,670,958
La. Gulf Coast...	144,665,769	54,958,623	62,552,580	7,160,262	19,220,559

	Coke (tons)	Asphalt (tons)	Other Fin. Prod. (gals.)
East Coast	12,275	68,415	7,121,808
Pennsylvania	125	2,028	4,006,057
Indiana and Illinois	9,309	7,936	27,025,213
Oklahoma and Kansas	11,512	105	4,352,592
Texas	6,043	18,535	69,325
Louisiana and Arkansas	4,483	18,894	*28,026,521
Colorado and Wyoming	5,386	6,056	158,436
California	.....	19,613	1,040,550
Total United States	49,133	141,582	*71,800,501
Total U. S. May 31, 1923	24,843	192,308	35,563,635
Texas Gulf Coast	6,043	18,535	.....
Louisiana Gulf Coast	4,483	18,894	2,453,061

*Revised.

CREEK INDIANS SUING FOR RIVER OIL RIGHT

OKMULGEE, Okla., Aug. 9.—At a meeting of 500 Creek Indians here it was decided to employ an attorney to recover valuable oil rights in the Arkansas and Cimarron River beds. A suit will be filed in the Court of Claims in Washington in an attempt to recover the rights claimed by the Creeks.

The committee selected to employ an attorney includes: Joseph Bruner, Sapulpa; B. R. Ewing of Eufaula; S. F. Miller of Wewoka; Jackson Thompson of Checotah, and C. F. Murphy of Wagoner. The oil rights involved are said to be worth several millions of dollars.

The Indians met at the old Indian church grounds 2 miles northwest of Okmulgee. Shade Wallen, superintendent of the Five Civilized Tribes presided over the meeting, which was the largest since tribal council days. W. W. Hastings, Congressman from the Second district, and Miss Alice Robertson, formerly a member of Congress from the same district, were present.

Half Your Pulling Costs Can Be Saved

A Guarantee Backed by 17 Years of Square Dealing

For 17 years Norris Brothers have been carrying on a steady fight against one of the oil industry's most wasteful practices—the use of cheap, inefficient balls and seats.

NO-CO-RO

TRIPLE TESTED

ALWAYS GUARANTEED

BALLS and SEATS

Will not rust, pit or corrode

In NO-CO-RO balls and seats you have the finished result of their work. Triply tested and absolutely guaranteed, they have achieved such remarkable results that 23,000 have been ordered on a single order without one rejection. They have made such consistent savings of 50% to 90% in pulling costs that we are willing to guarantee at least a 50 per cent saving in your work. Try NO-CO-ROS in your own wells. If they don't cut replacements at least in two, tell us and your money will be refunded. Can an offer like this—backed by 17 years of square dealing—be reasonably passed up? We leave it to you.

Manufactured by
NORRIS BROS., Inc.
Manufacturers of Oil Well Pumping Equipment
ROBINSON, ILL.

PACKERS DATE BACK TO DRILLING OF DRAKE WELL

(Continued from Page 76)

pression that the ideal packer is one which will work equally well during all three periods.

A careful survey of the packers in general use in the Mid-Continent fields today shows about 30 different types which are commonly known. Various manufacturers have detailed variations in some of the devices, which might bring the total number of individual packer types into the hundreds. For the purpose of comparison, however, the following discussion will be limited to the elementary types, without differentiation between the products of the various manufacturers.

Rubber packers are generally built on cylindrical steel bodies, and are generally from 3 to 8 feet in length, the rubber sleeve being from 10 to 32 inches long. The canvas packer is about 8 feet long with a canvas or burlap sleeve about three feet long, although some of these packers (Texas type) are made much longer.

In general it might be said that the packing material, either rubber or canvas surrounds a sliding tubular sleeve at the bottom of which another sleeve of slightly larger diameter is suspended. When sufficient weight is superimposed, such as the lowering of the tubing or casing until the weight of the string rests upon the top section of the packer, the two sleeves partially telescope, vertically compressing and laterally expanding the packing. Some modern devices claim that with the release of the weight, the packer may be withdrawn without damage and used again, although most of the packers necessitate new rubbers or canvas if used again.

Some Simple Types

Among the simplest types of packers are the bottom hole packer, disc bottom hole packer, casing anchor packer, screw anchor packer, conical sleeve anchor packer, the Macksburg or Armor conical packer, Dresser type packer, gas anchor packer and expanding gas anchor packer, and others such as the three-in-one packer, where a stepped steel mandrel is forced into the lower rubber shell. These illustrations have been drawn from the large list of those in common use because they are illustrative of the general principle outlined above and have few of the more intricate devices which distinguish some packers from the more elementary types.

Each of the elementary types has some distinguishing feature. For example the screw casing anchor packers are designed for use generally in cavey formations. The disc anchor packer prevents premature setting when the hole is drilled tight. In addition to the other types mentioned for the shutting off of bottom water one manufacturer is making a midget bottom hole packer for short strings of casing, so that the water shut off can be obtained with water close to the bottom of the string. Another manufacturer is prepared to shut off water at the bottom of the hole by the use of a lead bottom shoe, run in place of the usual steel shoe on the bottom of the casing.

Lead Bottom Shoe

In advocating its use this manufacturer declares that in many instances a flow of water is hit just a few inches before the drill finds a good seat where casing can be landed. In this case the average bottom hole packer, with the rubber from 3 to 4 feet off bottom, would miss the water area, which would have a good chance to break through behind the shoe and spoil the reduced hole. This manufacturer asserts that the bottom of the hole is concave and often egg-shaped, so that the average steel shoe cannot fit it exactly and perfects a water shut-off by grinding into the formation a short distance as a result of the weight of the pipe. With the use of a lead shoe, the bottom of the pipe readily conforms to the shape of the bottom of the hole, giving a satisfactory water shut-off.

A variety of plugs, including those made of lead and lead wool, wood and lead, steel and lead, wood and steel or wood and rubber and wood alone are also used to shut off bottom water. The collapsible core spiral plug wrapped with oakum and so made that it will expand laterally when set and collasped by a few strokes of the tools, is also used for this purpose.

The hook wall packer is one of the most useful of all packers. The packer may be run on casing or tubing and is designed primarily for shutting off water coming from behind a larger string of casing or the wall of the hole. This packer is usually fitted with expanding slips and friction springs, held in place by a hook while it was being lowered. When the seating place is reached, the casing is turned one-quarter of the way around sliding the body of the packer out of the slot in the slips. The slips then expand as the casing is lowered a few inches more and further pressure of the weight of the pipe causes pressure on the rubber and steel sleeve above, which is forced outward to conform to the shape of the casing or hole.

Some of the hook wall packers, fitted for tubing and designed for pumping wells, have small gas escapes in the top of the packer bodies so that the gas pressure will not be held on the oil while it is being pumped, causing imperfect valve action and loss of oil raised to the surface.

On some of the more intricate packers such as the duplex screw down liner packer, where two packers and a liner are used for shutting off water and overcoming cavey formation in place of a complete string of casing, a special tool, called a letting-in tool is necessary to fix the packer set. The same is true of the screw packer, disc and screw packer, screw plug packer and several others.

Conserves oil and Gas

Pumping packers, disc wall packers, disc cave packers, screw down liner packers, disc and screw packers, hook wall sand flooding protectors, screw plug packers, combination hook wall and anchor packers and gas double slip packers are provided with one or more sets of slips and the accompanying springs and devices necessary for their proper manipulation. In these packers, the producer finds the answer to his plea for greater conservation of oil and gas as the more recent developments have been brought about.

Not only is a packer an asset on a wildcat operation where a leaky casing may prevent completion of a well unless a packer is used, but it is also a great asset to the well during the production period, giving an advantage during all periods in increasings the output of oil from the well.

The installation of a packer and tubing in a well just above the producing sand will give the gas a better advantage in raising the oil to the surface. A small amount of gas in a reduced hole is thus enabled to raise a relatively large amount of oil. This is particularly noticeable where the production comes from a hole 6¾ inches in diameter. The gas raises little if any oil with it, but when the hole is reduced by means of a packer, so that the gas flows through a tubing 3 inches in diameter, considerable oil is carried up with the gas. When agitation becomes necessary this feature becomes more pronounced.

Use in Gas Wells

Not only are packers designed for promoting the life of the well but they also are designed for prolonging the life of gas wells and saving gas in numerous instances. A gas anchor packer is used to shut in gas wells and may be set at any point in the hole with the tubing extending to the bottom. Some of these gas anchor packers have an automatic packing ring to prevent the possibility of a gas blowout between the packer rubber and the lower coupling. Several kinds of gas anchor packers are now on the market.

For use in wells where the flow of gas and oil is heavy, a packer known as the control head packer has been designed.

(Continued on Page 136)

FOR 500 lb. PRESSURE

Do you know that 'Homestead' Valves are also made to stand extremely high pressures?

Several of the largest pipe line companies use the extra heavy 500 lb. type of valve as drip or bleeder valves on their high pressure lines. They find them more suitable than any other on this service.

1. Homestead Valves are carefully ground so that they are tight on gas, refined oil and gasoline service.
2. They open and close with a quarter-turn.
3. The plug is forced tight to its seat when the valve is closed and allowed to turn easily when it is operated.
4. The seat is protected when the fluid is passing thru.

These are some of the reasons why HOME STEAD QUARTER-TURN VALVES are giving satisfactory service to thousands of users.

Get a new catalog by sending your name.

HOMESTEAD VALVE MFG. CO. HOMESTEAD, PENNA.

USE HOMESTEAD VALVES

Oklahoma Production Shows Increase

Output of Crude for Second Quarter of 1924 Was 3,070,688 Bbls. Greater Than for the First Quarter of This Year

The gross production of crude petroleum in Oklahoma during the second quarter of this year showed an increase of 3,070,688 bbls., as compared to the output of the first quarter, according to figures compiled by the State Auditor from reports sent his office by the various producing companies of the State. The total production for the three months, as reported to the State, amounted to 39,299,695 bbls. Production of crude in Oklahoma has shown a steady and substantial increase and, if the present output is maintained, another larger increase will be shown in the State report for the third quarter. The report of the producing companies, as compiled by the State Auditor's office follows:

Aaronson, C. T., Tulsa	3,731
Acacia Oil & Gas Co., Pawhuska	1,735
Ackerman, F. T. & W. C. Coles, Tulsa	686
Acta Oil Co., Okmulgee	1,317
Adams Bros. & Prince, Ardmore	1,379
Adams & McGahey, Ardmore	236
Aetna Petroleum Co., Pittsburgh	738
Aggas, John, Morris	166
Albion Oil Co., Tulsa	9,202
Alcorn Oil Co., Ponca City	22,114
Aldrew Oil & Gas Co., Tulsa	1,978
Alexander, J. H., Tulsa	343
Alexander-Shakely Pet. Co., Tulsa	9,257
Allison, R. J., Tulsa	2,909
Alluwe Oil Co., Coffeyville, Kans.	8,150
Almeda Oil Co., Bartlesville	3,500
Amerada Petroleum Corp., Tulsa	750,579
American Contracting & Producing Co., Bartlesville	274
American Eagle Oil Co., Bartlesville	28,584
American Oil Development Co., Pittsburgh, Pa.	12,862
American Oil & Gas Co., Bartlesville	4,906
American Pipe Line Co., Wichita Falls, Texas	4,989
American Royalty Pet. Co., Tulsa	1,071
Anderson, C. F., Trustee, Dallas Texas	3,046
Anderson, S. A., Estate, Tulsa, care Elva Barrows, Exec.	10
Andes Oil & Gas Co., Tulsa	396
Anglo-Texas Oil Co., Tulsa	15,396
Argue & Compton Co., Tulsa	3,125
Arkansas Fuel Oil Co., Pittsburgh, Pa.	12,475
Armstrong Trust Co., Tulsa	1,075
Arthur Oil Co., Sistersville, W. Va.	9,005
Ashland Oil Co., New York, N. Y.	5,837
Associated Oil Co., of Texas, Wichita Falls Texas	82
Associated Oil Producers, Chicago, Ill.	7,516
Atlantic Oil Producing Co., Dallas, Texas	376,021
Atlantic Petroleum Corp., Tulsa	101,614
Aubyme Oil & Gas Co., Garber	3,738
Avery, Cyrus S., Tulsa	70
Avery Oil & Gas Co., Tulsa	1,762
Aymer, Chas., Nowata	563
Aztec Oil Co., Tulsa	13,808
B	
Bagley Oil & Gas Co., Auburn, Nebr.	3,943
Baker, Frank A., Tulsa	516
Baker Oil & Gas Co., Independence, Kansas	212
Baker & Strawn, Tulsa	21,045
Bell, Cora G., Trustee, Coffeyville, Kansas	650
Baltic Operating Co., Bartlesville	6,976
Balwanz, H. F., Bartlesville	28
Bamm Oil Co., Tulsa	147
Banford Oil Co., Tulsa	385
Barbara Oil Co., Okmulgee	17,177
Barber, Ruby V., Okmulgee	32
Barber, R. W. & Wife, Okmulgee	1,572
Barber, R. W., Gdn. Richmond W. Barber, Okmulgee	153
Barber Oil Co., Tulsa	279
Barker, Harry C., Poughkeepsie, N. Y.	1,168
Barnsdall Oil Co., Tulsa	316,985
Barrows, Elva, Tulsa	10
Bartles, Johnstone Oil Co., Bartlesville	732
Bartlesville Oil & Development Co., Bartlesville	140
Bartlett, David A., Estate-Peoples Banking & Trust Co., Trustee, Marietta, Ohio	328
Bartlett, J. B., Tulsa	241
Bartlett, R. H., Rec'r. Adams Oil & Gas Co., Tulsa	3,150
Bauder & Franklin, Tulsa	24
Baum, Henry, Ardmore	973
Baxter, L. W., Tulsa	759
Bayz, Alex., Okmulgee	1,167
Bay State Oil & Gas Co., Kansas City, Mo.	16,032
Bay State Oil & Gas Co., Kansas City, Mo., and Paden Oil & Gas Co., Oklahoma City	3,192
Baynes, John A., Exec., Mounds	76
B. & B. Waite Drilling Co., Bartlesville	51
Beacon Oil Co. & Boston & Osage Oil Co., Bartlesville	5,188
Beams, Drew, Okmulgee	2,360
Beal, C. E., Depew	2,776
Beasley, S. A., P. H. Stein & M. S. Mussellem, Muskogee	137
Beau-Ard Oil Co., Ardmore	1,113
Beauchamp, John L., Tulsa	46
Beggs Oil & Gas Co., Okmulgee	10,008
Bell Oil & Gas Co., Warren, Pa.	4,433
Ben Franks Oil Co., Enid	677
Bennett, Elizabeth, Tulsa	48
Berg, The Chas. E. Co., Inc., Tulsa	1,224
Bergen Oil & Gas Co., Tulsa	6,062
Bermingham, J. A., Tulsa	29,075
Berry, Geo. D., Coffeyville, Kans.	563
Berry, R. G., Tulsa	715
Berry, R. H., Tulsa	472
Berry Petroleum Co., Tulsa	75,175
Best, Edward, Nowata	334
Best, F. A. & W. J. Lambert, Tulsa	240
Best, Geo. C., Estate, Marietta, Ohio	1,391
Betty G Petroleum Co., Cement	435
Betty Ruth Oil Co., Broken Arrow	297
Biddles Oil Co., Tulsa	1,911
Billy Oil Co., Chelsea	173
Bingman, O. A., Okmulgee	1,310
Bingman, W. B., Okmulgee	1,310
Bingman, W. B. Trustee, Okmulgee	660
Bingman-Smith Oil Co., Okmulgee	7,484
Bird Creek Oil & Gas Co., Tulsa	1,266
Bird Creek Oil & Gas Co., et. al., Tulsa	1,283
Bisett, Lytle & Gray, Tulsa	5,478
Bishop Oil Co., Tulsa	263
B. Jack Oil Co., Sapulpa	709
Black, Geo. E., Los Angeles, Cal.	35
Black, J. J., Los Angeles, Cal.	144
Black, Jno. R., Corsicana, Texas	334
Black, W. A., Montreal, Can.	177
Black Panther Oil & Gas Co., & Turner & Stone. Trustees, Oklahoma City	20,163
Black, Sivalls & Bryson, Inc., Bartlesville	8,570
Blackstone Oil Co., Tulsa	1,301
Blackwell Oil & Gas Co., Blackwell	155,859
Blake, Wm., Tulsa	943
Blakeslee, H. W., Nowata	1,895
Bloch, J. H., Tulsa	569
Bole, Geo. S., Tulsa	58,744
Boles, Neal & Perry, Cleveland	919
Bolivar Run Oil Co., Tulsa	1,546
Bond, J. R. Oil Co., Oklahoma City	761
Borealis Oil Co., Oklahoma City	734
Bovaird, W. M., Sapulpa	3,884
Boyd, Lynn, Wilson	800
Boyd Oil Co., Tulsa	572
Braden Co., The, Tulsa	306
Braden & Moore, Tulsa	12,242
Braden & Myers, Tulsa	851
Braden, Myers & Clinkscale, Tulsa	858
Braden, Overton & Braden, Tulsa	2,664
Bradfield, C. H., Tulsa	236
Bradfield, C. H., Receiver, Glasco Oil Co., Tulsa	9,737
Bradfield, C. H., Trustee, Tulsa	119
Bradford Oil Corp., Robinson, Ill.	489
Bradley, E. A., et al., Tulsa	2,007
Bradstreet, J. G. & Co., Tulsa	475
Brady, E. H., Tulsa	472
Brann, Jas, Bartlesville	3,753
Brann, Jas., Receiver, Bartlesville	1,044
Brann, R. D., Trustee, Kansas City, Mo.	4,063
Branson & Harmon, Nowata	1,256
Breene, Frank M., Tulsa	49,110
Breene, Frank M., et. al., Tulsa	13,150
Breene, Mabel V., Tulsa	93
Brewer, R. C., Receiver, Chelsea	469
Bridgman, Welsh & Haner, Muskogee	466
Bright, Samuel, Okmulgee	1,803
Brittain, R. E., Oklahoma City	9,583
Britton-Johnson Oil Co., Tulsa	14,920
Brothers Oil Co., Inc., Tulsa	45
Brown, Chas. H., Oklahoma City	11
Brown, Guy Oil Co., Wichita Falls, Texas	5,694
Brown, L. H., Karn City, Pa.	67
Bruen, Rigdon & Bruen, Kansas City, Mo.	307
Brundred Oil Corp., Oil City, Pa.	2,165
Bruner, A., Tulsa	367
Bruner Oil Co., Independence, Kansas	561
Bryan, J. S., Oklahoma City	2,447
Bucher, P. O., Bartlesville	571
Buchner, Guy M., Holdenville	38
Buell, Bartlett & Co., Sapulpa	1,298
Buffalo Oil Corp., Buffalo, N. Y.	162
Bull Head Co., Ardmore	510
Bumbaugh, Geo. I., Coffeyville, Kansas	132
Burke & Greis, Tulsa	797
Burke-Greis Oil Co., Tulsa	6,899
Burke-Greis Oil Co., & Darby Petroleum Corp., Tulsa	26,153
Burke-Hoffeid Oil Co., Tulsa	19,829
Burton, Dan A. & W. Dickinson, Tulsa	257
Bushfield Oil Co., Chelsea	467
Buttram Petroleum Corp., Oklahoma City	764
Bu-Vi-Bar Petroleum Corp., Bristow	1,023
Byers, Myrtle S. Guardian, Nowata	17
Bynum, Maude A., et. al., Tulsa	1,434
C	
Cabin Valley Mining Co., Chelsea	2,347
Cala Belle Oil Co., Cement	741
Callahan Oil Co., Omaha, Nebr.	423
Callender, F. S., Trustee, Pittsburgh, Pa.	3,577
Callihan, W. F., Sapulpa	123
Cameron Refining Co., Ardmore	76,136
Campbell, J. A., No. 2, Tulsa	313
Campbell, H. L., Trustee, Nowata	584
Campbell & Byers, Cherryvale, Kansas	1,163
Campbell & Walford, Tulsa	923
Campbell Oil Co., Tulsa	4,225
Canadian U. S. Oil Ref. Corp., Chicago, Ill.	1,160
Canary, J. D., Littleton, Colo.	4,775
Canary, S. C., Tulsa	7,732
Canary & Canary, Littleton Colo.	2,847
Canary & Sinclair, Littleton, Colo.	71
Canfield, W. E. & G. W., Yale	812
Cappeau, J. P., Tulsa	147
Cappeau, M B., Tulsa	726
Carey Oil & Gas Co., Wellsville, N. Y.	445
Carles, S. L., Plattsburg, Mo.	176
Carlock & Dexter, Ardmore	868
Carner, Akin & Argue, Bartlesville	915
Carpathia Petroleum Co., Tulsa	19,548
Carr, J. M., Okmulgee	236
Carr, M. L., Okmulgee	15,225
Carter Oil Co., The, Tulsa	1,879,769
Cassidy, Aline M., Admrx., Guthrie	2,890
Caswell, Chas. H., Bartlesville	324
Cato Oil & Gas Co., Sapulpa	5,891
Central Petroleum Co., Tulsa	12,262
Central Union Oil Co., Tulsa	933
Chamberlain, H. G., Marietta, Ohio	316
Champlin Refining Co., Enid	17,164
Chestnut & Smith Corp., Tulsa	10,125
Chief Bigheart Oil & Gas Co., Wichita, Kansas	83
Chief Drilling Co., Okmulgee	68
Choctaw Oil Producing Co., Tulsa	1,174
Clarion Oil Co., Houston, Texas	3,876
Clark, L. P., Independence, Kans.	179
Clifton & Wise, Sapulpa	60
Cline Oil Co., Wichita Falls, Tex.	279
Clover, Marvin K., Tulsa	1,172
Cobb & Hollingsworth, Ardmore	621
Coe, R. W., Ardmore	2,272
Coe, R. W., Trustee, Ardmore	22,399
Cohen, Aaron, Baltimore, Md.	3,350
Cohn, M. M. & D., New York N. Y.	93
Coker, J. M., Claremore	222
Cole Oil Co., Tulsa	104
Coline Oil Co., Oklahoma City	158,809
Collins, Ida M. & Ray M., Tulsa	571
Collins Mortgage Co., Kingfisher	131
Colpitt, T. S. & C. R., Collinsville	554
Comar Oil Co., St. Louis, Mo.	2,007,664
Commerce Drilling Co., Tulsa	1,713
Commonwealth Oil Co., Warren, Pa.	1,318
Compton, O. W., et. al., Independence, Kansas	296
Congress Oil Co., Kansas City, Mo.	130
Connelly, E. L., Tulsa	338
Connelly, E. L., et. al., Tulsa	5,742
Connelly, G. W., Caney, Kansas	2,053
Conner, B. C., Tulsa	21
Constantine, C., Pawhuska	1,394
Continental Oil Co., Bristow	2,683
Continental Oil & Refining Co., Independence, Kans.	3,026
Coombs Oil, Gas & Land Co., Bartlesville	1,067
Cora Exploration Co., St. Louis, Mo	221
Corbin Oil & Gas Co., Tulsa	1,639
Corbin & Haver, Tulsa	2,612
Coronado Oil & Gas Co., Cleveland	3,762
Correne Oil Co., Tulsa	2,328
Cortez Oil Co., Tulsa	80,551
Cory, L. L., Fresno, Cal.	78
Cosden, J. S., Tulsa	5,335
Cosden Oil & Gas Co., Tulsa	782,973
Cowham, H. I., Independence, Kansas	342
Cowles, La. Monte, Burlington, Ia.	360
Craig, D. G., Independence, Kansas	181
Crawford, J. W. R., Jr., Tulsa	2,364
Creekmore, Morrison & Wolfe, Tulsa	252
Creo Oil Co., Tulsa	16,308
Crescent Oil Co., Bartlesville	668
Cromwell Oil & Gas Co., Tulsa	18,525
Crosbie & Gillespie, Tulsa	4,617
Crosby Drilling Co., Inc., Olean, N. Y.	408
Cruce & Potter, Ardmore	1,445
Cruce, Smith, Cruce, Ardmore	3,387
Cudahy Oil Co., The, Cleveland	27,703
Cumberland Oil & Gas Co., Muskogee	516
Cumberland Petroleum Co., Cleveland	5,059
Curtis, W. L., Co., Elmira, N. Y.	305
Curtis, W. L. Co., & F. M. Aiken, Elmira, N. Y.	2,182
Cusack, F. E. Okmulgee	1,167
Cushing Gasoline Co., Tulsa	3,216
Czarina Oil Co., Ardmore	783
D	
Daisy Belle Petroleum Co., Ardmore	10,519
Dallas Co., Tulsa	5,047
Damar Producing Co., Bristow	2,396
Damme-Pringle Oil & Gas Co., The, Okmulgee	765
Damon Oil Co., Tulsa	2,443
Dansiger Oil & Refining Co., Kansas City, Mo.	455
Dannenburg, N. B., Est. Sarah Ellis, Exec., Chelsea	361
Davis, C. P., Bristow	3,798
Davis, Jas. D., Tulsa	193
Davis, L. R., Tulsa	8,010
Davis, R. D., Cleveland	307
Dean, Jno., Estate, Guthrie	1,432
Deaner, C. H., Okmulgee	63
Deems, H. C., Tulsa	310
Deep Fork Oil Co., Marietta, Ohio	2,541
Deep Rock Oil & Refining Co., Chicago, Ill.	76,578
Dehner, A. L., Tulsa	10
Dekoma Dev. Co., Tulsa	377
Deloka Gas & Oil Co., Bartlesville	1,893
Delmar Oil Co., Bartlesville	267,472
Demack Oil Co., Tulsa	700
Denver Producing & Refining Co., Okmulgee	11,427
De Soto Gasoline Co., Houston, Tex.	1,167
De Vinna, M. A., Tulsa	615
Devonian Oil Co., Tulsa	55,111
De Watt Oil & Gas Co., Okmulgee	1,855
Diamond, Harry H., Oil Co., Holdenville	2,221
Dick, Jno., Buffalo, N. Y.	121
Dickerson, O. W. Oil Co., Oklahoma City	1,156
Dilley, N. Y., Trustee, Waurika	3,468
Dixie Oil Co., Cement	4,092
Dixie Oil Co., Inc., Shreveport, La.	253,540
Dock Oil & Gas Co., Bartlesville	783
Dolman, L. S., Walter H. Grant & S. W. Tyer, Ardmore	14,315
Dominion Oil & Gas Co., Washington, D. C.	219
Donnelly, J. C., Tulsa	265
Donohue, W. J. & K. D., Brtlesville	197
Doris Oil & Gas Co., Tulsa	1,066
Douglas Oil Co., Tulsa	316
Dover Oil Co., Bartlesville	714
D. & S. Oil & Gas Co., Tulsa	1,344
Duffield, R. S., Okmulgee	1,409
Duffield & Howard, Tulsa	3,623
Duffield, Lewis C., Tulsa	960
Duffield, L. C. & H. R. & Catherine Straight, Tulsa	11,197
Dumont, Archer, Carpenter, et. al. Okmulgee	774
Dunn, Chas., Coweta	63
Dunn, J. J., Okmulgee	706
Dunn Mineral Trust, Ardmore	3,133
Dunn Oil Co., Tulsa	384
Dunnington, A. S., Tulsa	139
E	
Eagle-Picher Lead Co., The Henryetta	8,755
Eason, I. T., Enid	361
Eastern Oil Co., Buffalo, N. Y.	148,981
Ebling, L. R. & Co., Bartlesville	1,906
Echo Oil Co., Tulsa	46,961
Edgington, L. D., Hominy	336
Eliza Tim Oil Co., Sapulpa	357
Elk Producing Co., Tulsa	1,223
Elliott, W. C., Tulsa	945
Elliott & Smith, Tulsa	6,475
Ellis, I. G. & Harry W. Gibson, Recrs. Mid-Co. Pet. Co., Tulsa	31,094
Elm Oil Co., Tulsa	4,659
Elmer Oil Co., Elmira, N. Y.	5,384
Emery, Louis, Jr., & Sons, Bradford, Pa.	15,939
Emery Bros., Bradford, Pa.	2,949
Emig, C. E., New York, N. Y.	399
Empire Gas & Fuel Co., (Del. Okla. Div.,) Bartlesville	154,649
Empire City Co., Tulsa	1,036
Enfisco Oil Corp., Tulsa	16,737
English Drilling & Prod. Co., Cement	14,643
Enterprise Transit Co., Titus, Pa.	5,966
Etchen, Chas. A., Coffeyville, Kan.	61
Evidence Oil Co., Caney, Kans.	940
Exchange Oil & Gas Co., Tulsa	1,464
Exchange Trust Co., Receiver, Tulsa	72
F	
Faltinson, A., Tulsa	5,418
Fan Elva Oil & Gas Co., Pittsburgh, Pa.	3,300
Farco Oil Co., Ltd., Okmulgee	470
Farmer, A. L. & A. E. Duran, Tulsa	940
Farren, C. F., Tulsa	12,480
Fay Drilling Co., Tulsa	381
Federal Oil Co., Cleveland, Ohio	366
Fee Oil Co., Muskogee	977
Fellowship Oil & Drilling Co., Tulsa	387
Fern Oil & Gas Co., Yale	2,083
Fidelity Oil Corp., Louisville, Ky.	139
Fifty-Nine Osage Oil Co., Bartlesville	42,806
Finance Oil Co., Pawhuska	23,926
Finance Oil Co. & Livingston Oil Co., Pawhuska	630
Finch, F. L., Tulsa	6,667
First Nat.'l Bank, No. 3, Cleveland	63
Fisher Oil Co., The Pittsburgh, Pa.	1,196
Fitzgerald, D. C., Trustee, Ardmore	12,994
Fitzgerald, H. L., Tulsa	187
Fitzgerald, Jno. W., Bartlesville	422
Fitzgerald & Withington, Tulsa	634
Flanagan & McGrath, Delaware	253
Flat Rock Oil Co., Tulsa	1,735
Flesher Petroleum Co., Tulsa	24,047
F. & N. Oil Co., Tulsa	2,200
Force Oil Co., Tulsa	214
Forster, S. F., Dallas, Texas	1,070
Fort King Oil & Gas Co., Fort Worth, Texas	7,345
Fortuna Oil Co., Dallas, Texas	163,664
Forty-Five Oil Co., The, Bartlesville	2,282
Forty-Five Oil Co., The & E. S. Bell, Bartlesville	4,822
Forster, H. V., Bartlesville	44,721
Foster & Davis, Inc., Bartlesville	11,195
Foster & Leech, Barrlesville	980
Foster Inv. Co., Tulsa	38,858
Four Point Oil Co., Lawton	191
Fox, W. T., Sapulpa	623
Fox Petroleum Co., Ardmore	6,529
Franchot, D. W. & Co., Tulsa	29,584
Francis, W. C., Skiatook	238
Franklin Oil Co., Franklin, Pa.	410
Franklin Oil & Dev. Co., Nowata	1,532
Frederick, H. B., Tulsa	99
Friedman, Loues, Tulsa	293
Friedman, Loues Oil Co., Tulsa	1,732
French, M. C., Okmulgee	879
Furlow Development Co., Enid	1,491
G	
Gaffney, H. E. & H. B., Bradford, Pa.	2,895
Gaffney, Olive Bradford, Pa.	1,749
Galbraith, H. H., et. al., Independence, Kansas	4,119
Galvez Oil Corp., Tulsa	10,496
Gamo Oil Co., Claremore	420
Gant, Walter H., Ardmore	8,406
Gardner, J. K., Okmulgee	1,744
Gardner & Avery, Tulsa	847
Gardner Oil Co., Tulsa	142
Gardner Petroleum Co., St. Louis, Mo.	24,073
Garis, Ralph, Chelsea	97
Gates Oil Co., Ardmore	26,831
Gates Oil Co., Denver, Colo.	763
Gates-Cook Drilling Co., Okmulgee	760
Geneva Pearl Oil & Gas Co., Ardmore	3,495
Genevra Oil Co., The, Bartlesville	467

Georgia Oil & Gas Co., Copan..... 3,792
Georgia-Okla. Oil Syndicate, Tulsa 69
Getty, Geo. F., et al., Tulsa..... 8,663
Giddings, F. C., W. H. Gray, A. B. C. Dagne, Chas. F. Egan & R. A. Welch, Tulsa..... 1,032
Gilcrease Oil Co., Tulsa..... 25,435
Gillespie, F. A. & Sons, Tulsa.... 36,673
Gillespie, Joe, Coffeyville, Kans.. 72
Gillespie, Joe, Tulsa..... 3,467
Gillette, J. M., Tulsa..... 96,712
Gilliland Oil Co., Tulsa..... 101
Gilmer Oil Co., Lamine, Mo..... 33,330
Gilmer Oil Co., Ardmore .....
Gladstone Oil & Refg. Co., Shreveport, La..... 2,900
Glass & Harmon, Nowata..... 3,982
Glass, Reed & McSpadden, Nowata 536
Gled Oil Co., Tulsa..... 850
Gliddon, H. P., Tulsa..... 1,806
Godfrey, F. L., Enid..... 1,044
Godshall, E. G., Blackwell..... 85
Goforth, W. A., Recr. Meridian Pet. Corp., Tulsa..... 28,012
Goldie Oil & Gas Co., Kansas City, Mo., ... 829
Goodyear Oil Co., Tulsa..... 1,899
Gordon, Mary Louise, Beverly Hills, Cal. 2,235
Gorman, M., Trustee, Stahl & Horrigan, Ardmore 1,650
Gorton, Trust, The, Ardmore 12,683
Graham, Jas. H., Bartlesville..... 7,443
Graham Mineral Trust, Ardmore.. 2,853
Grand Duke Prod. Co., Muskogee.. 848
Great Southwestern Pet. Co., Oklahoma City 357
Gregg, C. O., Ardmore 6,167
Greis, H. N., Tulsa..... 78
Grieves, Jno. B., Teriton 6,549
Griffin Prod. Co., The, Tulsa..... 3,974
Grimes, W. Baker, Tulsa..... 184
Grimes, Blair, et al, Tulsa..... 492
Grimes & Gillespie, Tulsa..... 19,807
Grimes, Parent, Gillespie & Dickson, Tulsa 292
Guaranty Oil Co., Sand Springs . 238
Gurley, H. S., Blackwell 4,092
Gypsy Oil Co. 2,986,789
Halden Oil Co., Tulsa..... 869
Hales, W. T., Oklahoma City 81,054
Halfast, E. W., Muskogee 192
Halfmoon Oil Co., Bartlesville.... 556
Hall & Briscoe, Inc., Chickasha .. 2,147
Hall-Briscoe-Nelson Drilling Co., Chickasha 3,152
Hallett Petroleum Co., Tulsa..... 979
Halsell Oil & Gas Co., Vinita..... 986
Hamburger Bros., New York, N. Y. 26
Hamill, A. W., Tulsa 20
Hammer, A. A., Tulsa 301
Hammat, D. M. & Co., Tulsa..... 1,463
Hamon, Jake L. Jr., Ardmore... 1,354
Hamon, Jake L., Est., Ardmore.. 29,799
Hancock Oil Co., Tulsa 741
Hand, H. M., Tulsa 154
Hane, C. E., Agt., Tulsa 11,628
Haner, J. C., Muskogee 115
Haner Oil & Ref. Co., Muskogee... 116
Haney & H. C. Bowers & Sons, Peru, Kans. 223
Harnis Oil Co., Tulsa..... 283
Harland Oil Co., Pittsburgh, Pa... 35,179
Harmon, C. C., Nowata 1,502
Harmon, W. J. et al, Okmulgee.. 12,936
Harrinton, Lillian F., Tulsa..... 369
Harrington, Lillian F. No. 5,, Tulsa 199
Harrington, Wm., Marietta, Ohio. 158
Harris, Mrs. L. C., Rising Sun, Ind. 227
Harris, T. D., Trustee, Okmulgee 39
Harris & Haun & O'Shaughnessy, Blackwell 2,565
Harris-Hays Co., Okmulgee..... 1,795
Harris-Strawn Oil Co., Ardmore ... 4,292
Hartman & Mann, Pittsburgh, Pa. 333
Hartz, Ben, Baltimore, Md. 167
Hartwell, E. P., Tulsa 45,168
Haskell, F. K., Bartlesville 68
Haskell, F. K., Agent, Bartlesville 1,237
Hastings, W. T., Marietta, Ohio .. 316
Haubert, H. J., Tulsa..... 356
Hauel, F. A. Co., Okmulgee 649
Hayden, Hayward, Tulsa 468
Hayner Petroleum Co., Tulsa 1,029
Hays Oil Co., The, Oil City, Pa... 1,000
Hazen, S. P., Tulsa 200
Hazlett, A. J. Morris 3,235
Hazlett, Bradford & Frazier Bros. El Dorado, Kans. 3,397
H. W. C. Oil Co., Chelsea 574
Healdton Oil & Gas Co., Enid 110,126
Healdton Field Oil Co., El Reno.. 1,085
Henna, J. A., Ardmore 2,272
Hefner, Co., The, Ardmore 1,385
Heggem & Davis, Tulsa..... 4,852
Henderson Co., The, Nowata..... 72
Henderson & Holden, El Dorado, Kans. 1,196
Henry Oil Co., The, Tulsa 12,241
Henry & Avers, Tulsa..... 951
Hennessey, J. E., Okmulgee..... 1,460
Hennessey, J. E. & J. H. Thompson, Okmulgee 519
Henson, Prod. Co., Tulsa..... 1,427
Henton, E. L., et al, Chelsea..... 2,325
Henton & Weible, Chelsea 504
Hewitt, W. M., Okmulgee 4,717
Hewitt Mineral Trust, Ardmore.. 1,931
Hibbard, S. B., S. S. Glasscock, & John R. Hammond, Trustees, Kansas City, Mo. 1,405
Hickernell, G. W., Warren, Pa. 601
Higgins Oil & Fuel Co. and Pulaski Oil Co., Tulsa 3,026
Highway Oil Refining Corp., Tulsa 1,521
Hilde Oil & Gas Co., Okmulgee ... 1,706
Hill Oil & Gas Co., Tulsa 143,730
Hillside Oil Co., Tulsa..... 5,648
Hillside Oil, Gas & Coal Co., Aurora, Ill. 871
Hilltop Oil Trust, Ardmore 9,710
Hinerman & Marshall, Tulsa 7,202
Hinkle, F. V., Okmulgee 1,643
Hinkle, Fitzgerald & Westheimer, Ardmore 16,097
Hippodrome Oil Co., Tulsa 922
Hiram Oil & Gas Co., Kellyville .. 1,571
Hiteshew, W. B., Robinson, Ill.... 830
H. & M. Petroleum Co., Tulsa.... 864
Hoefer, C. C., Kansas City, Mo... 70
Hoffer Oil Corp., Ft. Worth, Tex. 170,963
Hogue, J. B., Nowata 273
Hojoco Oil Co., Tulsa 140
Hollingsworth, Geo. C., Receiver, Ardmore 1,580
Hollis, Elsie B., Los Angeles, Cal. 138
Holm, Martin A., Chicago, Ill. 110
Holm, Coombs & Chapman, Bartlesville 835
Holmes, B. F. & Co., Lyons, Kans. 715
Holmes, Walter E., Tulsa..... 3,563
Holmes Oil Co., The, Lyons, Kans 119
Holtzendorff, C. B., Claremore... 79
Homaokla Oil Co., Oklahoma City 30,372
Home Gas Co. of Cushing, Cushing 18,441
Hoot Oil Co., Warren, Pa. 58
Hornecker, Henry, Tulsa 927
Hornecker, Frederick & Hagler, Tulsa 70
Hornecker & Graham, Tulsa 471
Hornecker & Hagler, Tulsa 2,241
Hornecker, Miller & Dunigan, Tulsa 355
Horner, W. H., Cleveland 145
Houser, M. A., Tulsa 629
Howrd, O. R., Tulsa..... 17,067
Howard, Duffield & Berlin, Tulsa 7,191
Howarth, F. O. Oil & Gas Co. Tulsa 11,613
Huckleberry, J. H. No. 5, Kansas City, Mo. 17
Hudson Oil Co., Wellsville, N. Y. 222
Hudson, Grimes et al, Tulsa 559
Hughes, M. S., Bristow 128
Hughes, Roland A., Cygnet, Ohio. 513
Hughes, R. A., Gelta and Orra Brecht, Cygnet, Ohio 355
Hughes, R. H., Tulsa 84
Hughes & Schwyn, Cygnet, Ohio.. 542
Hulen, H. E., Bartlesville 1,126
Hulings, F. W., Okmulgee 543
Hulings, F. W., Trustee, Okmulgee 225
Hulings, Mark C., Tulsa 134
Hullings & Smith, Okmulgee..... 487
Hull, J. A., Tulsa 171
Hull, J. A. Co., Tulsa 281,571
Hull, J. D., Tulsa 66
Humble Oil & Ref. Co., Houston, Tex. 242,047
Hummel, Chas. S., Chelsea 606
Hunt & Grastorf, Colorado Springs, Colo. 1,383
Hurdles, H. J., Mounds..... 180
Hurford, G. H., Tulsa 90
Hutchison, E. A., Trustee, Bartlesville 517
Hutchison, L. I., Trustee, Kanola Oil & Ref. Co., Tulsa 3,514
Hutt, Annie M., Ft. Worth, Tex... 224
Hutt, E. F., Kansas City, Mo.... 224
Hutt, J. E., Kansas City, Mo..... 224
Hyer, Fred, Ft. Worth, Tex..... 1,579
Ideal Oil & Gas Co., Ardmore 2,151
Ideal Royalty Oil, Tulsa 1,816
Illata Oil Co., Vinita 117
Illinois Refining Co.-Kawfield Oil Co., Cushing 18,934
Imo Oil & Gas Co., Covington.... 9,352
Independence Oil Co., Independence, Kans. 1,833
Independent Oil Co., Okmulgee... 201,640
Indiahoma Refining Co., bankrupt, J. H. Ober, Trustee, St. Louis, Mo. 16,077
Indian Territory Illuminating Oil Co., Bartlesville 48,312
Indiana Oil & Gas Co., Tulsa 35,262
Interstate Oil & Gas Co., Bartlesville 4,820
Invader Oil Corp, Muskogee 1,824
Iowa Oil Refining Co., Healdton . 2,775
Iron Mountain Oil Co., The, Tulsa 25,062
Irvine, Jas., Sapulpa 281
Irwin, Jno. S., Bartlesville..... 1,108
Irwin-Miller, Bartlesville 1,154
Jackson, L. B., Sapulpa 647
Jackson, W. E., Wilson 34
Jackson, Wise & Bovaird, Sapulpa 2,590
Jackson, Wise & Byers, Sapulpa.. 132
Jackson, Wise & Farr, Sapulpa... 165
Jackson, Wise & Snedden, Sapulpa 1,186
Jackson, Wise & Markham, Sapulpa 5,554
Jane Oil Co., Rouseville, Pa..... 2,031
Jankawsky, Mose, Tulsa 3,773
Jarvis & Holm, Inc., and Darby Pet. Co. of N. Y., Tulsa..... 19,744
Jeff Oil Co., Chelsea 922
Jeffrey, E. B., Trustee, Oklahoma City 2,819
Jelinek, Jno., Nowata 328
Jennie Oil Co., Chelsea 248
Jennings, R. G., Pittsburgh, Pa... 4,335
Jennings, R. G. and Snowden & McSweeney, New York, N. Y.... 5,644
Jensen, P. W., Chelsea 429
Jenson, H. A., West Tulsa..... 598
Jim Glenn Oil Co., Tulsa..... 9,282
Johnede Oil Co., Tulsa 36,072
Johnson, Mrs. C. L., Kansas City, Mo. 89
Johnson Farm Oil Co., Warren, Pa. 1,023
Johnson, T. E., Memphis, Tenn.. 36
Johnson, W. B., Okmulgee 34
Johnson Oil Refining Co., Chicago, Ill. 3,189
Johnston, T. A. & Co., Okmulgee 7,460
Jomac Oil Co., Bristow..... 88,809
Jones, R. C., Cushing 1,000
Jordon, J. G. et al, Okmulgee.... 649
Josey Oil Co., Tulsa..... 88,295
Kahle, Clyde, Cyril 1,275
Kano Oil Co., Nowata 221
Kanola Oil & Ref. Co., Tulsa 1,670
Kansas-Okla. Cons. Oil Co., Minneapolis, Minn. 804
Karnes, H. E., Independence, Kans. 57
Kathryne Oil Co., The, Tulsa..... 358
Katy Oil & Gas Co., Bartlesville.. 1,830
Kay Oil Co., Blackwell 66
Kay County Gas Co., Ponca City 636,254
Kay & Kiowa Oil Co., Tulsa 13,424
Keenan, J. R., Tulsa 41
Keener Oil & Gas Co., The, Tulsa 44,461
Keeter, J. A., Atlanta, Ga. 743
Keith, J. H., Coffeyville, Kans... 143
Kelly, E. F. et al, Tulsa..... 245
Kemp, E. R., deceased, Tulsa.... 770
Kennedy, H. W., Tulsa 807
Kennedy, J. L. Estate, Tulsa 240
Kennedy, J. L. & S. G., Tulsa.... 2,864
Keno Oil Co., Tulsa 2,634
Kerull, Oil Co., Tulsa 2,871
Kewanee Oil & Gas Co., The, Titus, Pa. 121,674
Keys Oil Co., Independence, Kans 314
Keystone Oil & Gas Co., Independence, Kans. 129
King, John, Receiver, Tulsa..... 17,520
King & Harrington, Tulsa 280
King Phillip Oil Co., New Bedford, Mass. 471
Kingsley, W. L., Kansas City, Mo. 242
Kingsmith Refining Co., Tulsa... 2,043
Kingwood Oil Co., Okmulgee 69,940
Kinney, Geo, Trustee, Tulsa 18,595
Kinney, Geo. & C. W. Kingsbury, Sand Springs 172
Kinney, Geo., C. W. Kingsbury and E. M. Monell, Sand Springs..... 2,256
Kinney-Wood & McIntyre, Sand Springs 271
Kirk Oil Co., Ardmore 32,170
Kirkwood & Kennedy, Tulsa 730
Kline & Brown, Inc., Tulsa 7,298
Knaell, J. C., Tulsa 522
Knappenberger, D. L., Tulsa 70
Knappenberger, W. E., Tulsa 70
Knickerbacker Oil & Gas Co., Tulsa 1,502
Knupp Oil Corp., Warren, Pa., J. J. Lubell, N. Y. and Higrade Pet. & Gas Co., Tulsa 1,063
Knupp Oil Co., Warren P and Phillips Pet. Co., Bartlesville... 783
Kohlenberg, W. C., Tulsa 52
Kornegar, W. H., Trustee, Vinita 132
Kraeer Oil & Gas Co., Bartlesville 2,610
Kuhn, J. H., Tulsa 1,021
Kunkel, W. A., Bluffton, Ind. ... 200
Lackawana Prod. & Ref. Co. Scranton, Pa. 500
Lahman Bell Oil Co., Dewey.... 262
Lambert, E. J., Tulsa.. Dewey... 5,515
Lambert Oil & Gas Co., Tulsa.... 10,758
Lamberton, J. S., Tulsa 385
Lamberton, W. J., Estate, Tulsa... 70
Lamberton & Lasater, Tulsa 68
Lancaster & Grimes, Tulsa 592
Landon, A. M., Independence, Kan. 10,410
Lane, E., Nowata 2,184
Lane Oil Producing Co., Chicago 3,023
Lane & Wasson Co., Ardmore ... 4,921
Large Oil Co., Bartlesville 3,371
Larkin, C. L., Bartlesville 1,257
Larkin, J. J., Tulsa..... 691
Larkin Oil Co., Tulsa..... 81
Lashley, Edmund, Tulsa 82
Lashley & Rambo, Tulsa 5
Lasoya Oil Co., Altoona, Pa..... 1,808
Lathrop, Joe, Ardmore 774
Latona Oil Co., Tulsa 422
Laurel Oil & Gas Co., Tulsa 557,931
Lawson, E. B., Nowata 16,752
Lawson, E. B. and Sunset Prod. Co., Nowata 220
Lawson & Cowles, Nowata..... 1,020
Lawson & Mancill, Nowata 268
Lawson & Reed, Nowata 374
Lawson & Whitehill, Nowata 2,271
Lawton, Corp., Oklahoma City 1,645
Lea Drilling Co., Tulsa 831
Le Bosquet, J. E., Estate, Tulsa.. 271
Lee, Frank W., Tulsa 16
Le Fever, M. M., Marietta, Ohio .. 678
Lennox Oil & Gas Co., Lennox, S. D. 425
Leo Oil & Gas Co., Sapulpa 718
Leonard Petroleum Co., Washington, Pa. 1,175
Leopold & Brett, Muskogee 247
Letson Oil Co., Dewey..... 643
Levant Oil Co., Ardmore 15,767
Levy, I. B., Trustee, Oklahoma City 3,633
Lewis Oil Co., Pittsburgh, Pa.... 13,816
Lewis Clark Petroleum Co., Oklahoma City 11,864
Liberty Oil & Gas Co., Warren, Pa. 3,411
Lightning Creek Oil & Gas Co., Wellsville, N. Y. 336
Lima Oil & Gas Co., Bartlesville . 4,908
Lincoln Oil & Gas Co., Tulsa.... 2,350
Link Oil Co., The, Tulsa 43,968
Lippa, Arthur, Tulsa 271
Livingston Oil Corp., Tulsa 2,655
Loar, W. N. & Co., Okmulgee 2,503
Local Oil Co., Warren, Pa. 1,342
Lofland, J. M., Tulsa 1,454
Lofland, T. S., Tulsa 301
Lofland, T. S. No. 2, Tulsa 276
Lomore Oil Co., Ardmore 3,749
Lone Star Gas Co., Dallas, Tex... 31,192
Long, A. V., Tulsa 51
Lorraine Pet. Co., Tulsa 105,518
Lotridge, Edw. B., Tulsa 65
Louvain Oil Co., Bartlesville.... 650
Love, L. H., Ardmore 9,735
Lovell, J. A., Marietta, Ohio.... 504
Lovell, Paul, Estate, Dot L., Admx., Marietta, Ohio 1,103
Lovett Oil Co., Nowata 1,536
Lowrie & Barnes, Robinson, Ill.... 255
Lowrie, Barnes & Titus, Robinson, Ill. 1,787
Lowry Oil Corp., Muskogee 5,960
Lowry-Barnes Corp., The, Muskogee 995
L. S. M. & S. Oil Co., Tulsa..... 272
Lucado Oil & Gas Co., Coffeyville, Kans. 285
Lucky Leaf Oil & Gas Co., Blackwell 1,593
Lucky Scott Oil & Gas Co., Independence, Kans. 8,836
Ludey, Chas. A., Marietta, Ohio.. 2,953
Lynch, C. B & Co., Tulsa 1,139
Lyon, Burt W. and Mary J., Los Gatos, Cal. 822
Lyon-Leonard Oil Co., Los Gatos, Cal. 109
Lyon & McKeever, Los Gatos, Cal. 189
Lyons Petroleum Co., Denver, Colo. 12,426
McAnsh, Andrew Co., Chicago, Ill. 507
McBrayer, T. H., Okmulgee..... 85
McBride, W. C., Inc., St. Louis, Mo. 4,066
McCallister, C. T., Sapulpa 68
McCaskey & Wents, Ponca City.. 375,282
McClintock, H. H. et al, Bartlesville 1,799
McClintock, R. Otis, Tulsa 397
McConnell, Carol S., Tulsa 1,635
McConnell, Grace M., Oklahoma City 138
McCormick, J. A., Trustee, Muskogee 1,188
McCormick, Matt, Nowata 196
McCullough, E. E., Muskogee..... 478
McDonald, J. H., Muskogee 609
McFarlin & Chapman, Tulsa..... 500
McGill, H. R. and Ruth Gilbert Tulsa 2,872
McKay, Margaret C., Gdn., Sapulpa 1,024
McKeon, P. G., Tulsa 1,594
McKeown & Cuckow, Ada 980
McKee Oil & Gas Co., Ardmore... 2,403
McKinney, Geo. J., Tulsa 27
McLane Farm Oil Co., Tulsa..... 1,122
McMahon, D. F., Tulsa 31
McMahon, C. L., Okmulgee 3,468
McMahon, C. L., Inc., Okmulgee 105,509
McMahon, C. L. & Kennedy, Trustees, Okmulgee 40
McMahon, Ed J., Denver, Colo. 41
McMahon, J. L., Wichita Falls, Tex. 95
McMahon, J. V., Tulsa 62
McMan Oil & Gas Co., Tulsa..... 195,830
McManus, C. T., Nowata 131
McMullen, R. V., H. E. Wilcox, Jas. Loriaux & H. G. Wilcox, Tulsa 76
McNutt, J. P., Morris 2,726
McNutt, J. P. & A. L. Davis, Morris 274
McOwen, Bernard, Estate, Buffalo, N. Y. 1,270
McQueen, I. R., Oklahoma City, 22,722
McSpadden, T. R., Nowata 142
Mack Oil & Gas Co., Bartlesville 577
Magna Oil & Ref. Co., Tulsa..... 9,956
Magnolia Petroleum Co., Dallas, Tex. 1,645,714
Maire, F. L., Lima, Ohio 248
Maire Bros. & Ebling, Bartlesville 3,274
Majestic Oil & Gas Co., DuQuoin, Ill. 1,127
Mallory, J. F. & J. N. Stewart, Parkersburg, W. Va. 528
Ma-Lou Oil Co., Pittsburgh, Pa... 3,354
Mancill, H. E., Bartlesville..... 107
Margay Oil Corp., Tulsa 41,660
Margulies, Larry J., Tulsa 1,061
Marietta Oil Co., The, Marietta, O. 1,616
Mark, Clayton, Muskogee 733
Markham, J. H., Jr., Tulsa..... 57,164
Markham, J. H., Jr., et al, Tulsa 4,111
Marland Refining Co., Ponca City 356,334
Marshall Oil Co., Tulsa 243
Martin, Emma L., Fresno, Cal. 84
Martin, J. E., Tulsa 4,983
Martin, L. J., Tulsa 271
Martin, S. A. O. & G. Co., Chelsea 1,248
Mary Parker Oil Co., Chelsea 435
Mason, Allen & Newton C. Fassett, New York, N. Y. 187
Mason, D. B., Tulsa 15,756
Mason, Fred T., Tulsa 46
Mason-Beauchamp Oil Co., Tulsa. 446
Massey, Alexander, Kansas City, Mo. 682
Matteson, Chas. D., St. Paul, Minn 780,
Maxson, E. E., Trustee, Twasso.. 2,471
Maxwell, D. G., Bartlesville..... 1,481
Maxwell, D. G. & J. W. Thompson, Bartlesville 812
May, J. T. & C. L. Benbow, Muskogee 8
May, Max, Tulsa 80
Mead, C. J., Okmulgee 153
Mechling, C. A., Tulsa 755
Mechling & Berlin, Tulsa..... 1,335
Meissner, Wm. H., Trustee, Tulsa 38
Melba Oil Co., Tulsa 2,207
Mercer Oil Co., Oklahoma City.. 473
Meridian Oil Co., Inc., Jennings, La. 269
Merrick, F. W., Ardmore 13,828
Merrick, F. W. & R. W. Coe, Trustees, Ardmore 17,273
Merrick, Ward, et al, Ardmore.... 3,339
Messner, M. B. & L. S. Clough, Bartlesville 569
Metropolitan Pet. Co., Tulsa..... 668
Metzger, Louis L., Muskogee 77
Midget Oil & Gas Co., Republic Mo. 1,386
Mid-Kansas Oil & Gas Co., Findlay, Ohio 346,747
Midland Oil Co., Bartlesville 160,263
Midland Securities Co., The, Tulsa 11,457
Milroy, Pet. Co., Duncan 1,282
Minnehaha Oil Co., Manasha, Wis. 706
Minnehoma Oil & Gas Co., Tulsa 98,140
Minshall, E. R., Tulsa 4,550
Minshall, E. R. & Co., Tulsa..... 11,423
Minshall Oil & Gas Co., Tulsa 3,029
Misener, F. D. et al, Tulsa 10,062
Mission Oil & Gas Co., Santa Barbara, Cal. 382
Mitchell, Mark D. & Co., Independence, Kans. 671
Mitchell & Murrow, Independence, Kans. 179
Modern Oil Co., Wellsville, N. Y.... 1,292
Modesitt Oil Co., Okmulgee 530
Mohawk Pet. Co., Tulsa 3,531
Monroe, Jas. E., Trustee, Tulsa... 1,095
Monte Cristo Oil Co., Tulsa..... 555
Montesuma Oil Co., Tulsa..... 633
Montrose Oil Refining Co., Inc., Shreveport, La. 5,397
Mooney & Holtzendorff, Claremore 553
Moore, Clint, Tulsa..... 14,413
Moore, Frank L., Tulsa 16,700
Moore, Mrs. G. E., Tulsa 580
Moore Petroleum Co., Tulsa 70
Moore Refining Co., Arkansas City, Kans. 3,778
Mosley, C. F., Bartlesville..... 5,248
Morey, E. E., Tulsa 287
Morley, W. & Son, Bartlesville... 172
Moroney Bros., Okmulgee 76
Morrison & Jackson, Sapulpa 6,744
Morton & Co., Bartlesville..... 9,322
Morton Oil & Gas Co., Pittsburgh, Pa. 257
Morton Petroleum Co., Bartlesville 1,870
Mound Oil & Gas Co., Tulsa..... 2,532
Mountain Creek Oil & Gas Co., The Coweta 67
Mountain State Oil Co., Bartlesville 44,914
M. T. C. Oil & Gas Co., Coffeyville, Kans. 2,215
Mudge Oil Co., Pittsburgh, Pa.... 23,334
Mul-Berry Oil Co., Cushing 14,846
Mullendore, Bessie, Cleveland 219
Mullendore, E. C., Cleveland 102
Mullendore, R. F., Hominy 126
Murphy Oil Co. of Pennsylvania, Philadelphia, Pa. 162
Murry, John Y., Trustee, Tulsa... 455
Muskogee Oil Corp., Muskogee 567
Mutual Oil Co., Denver, Colo. 223,674
Myers, C. M., Tulsa 833
Myers Oil & Gas Co., Pittsburgh, Pa. 589
Myrton Oil Co., Kensington, Md. .. 67
Nancy Oil Co., Sapulpa 474
Neely, The Lemon Co., Tulsa.... 6,729
Neubeck, W. L., Marietta, Ohio .. 334
New Haven Oil Co., Bartlesville .. 2,631
New Pocahontas Oil & Gas Co., Oklahoma City 318
New Years Oil & Gas Co., Kensington, Md. 333
Newlin & Ludey, Tulsa..... 80
Nicaragua Oil Co., Freeport, Ill.... 757
Niece, Chas. E., Tulsa 1,066
Night & Day Oil Co., Lawton 465
Ninety Nine Oil Co., Tulsa 733
Noble, Lloyd, Ardmore 213
Noble Oil & Gas Co., Tulsa 13,613
Nolan-Jackson, Sapulpa 1,354
Norman, Theo. A., Palmer, Mass.. 475
North Baltimore Oil & Gas Association, Okmulgee 9,991
Northland Gasoline Co., Tulsa ... 5,143
Northland Oil Co., Kane, Pa. 533
Northrop, Mrs. Mary S., Tulsa... 161
Northrop Oil & Gas Co., Tulsa ... 436
Northwestern Oil Co., Chicago, Ill. 138
Nowata Oil & Ref. Co., Tulsa 52,938
Norwood Oil Co., New York, N. Y. 13,010
Nyanza Refining Co., Wilson 2,633
Oak Ridge Oil & Mining Co., St. Louis, Mo. 289
Obins & Weber, Bartlesville 26,181
O'Brien, P. J., Tulsa..... 138
O'Connor, Dennis & Sara, Butler, Pa. 1,933
Octo Oil Co., Bartlesville 471
Odell, C. C., Trustee, Morris 1,116
Oglesby, Robert, Tulsa 7,123

(Continued on Page 138)

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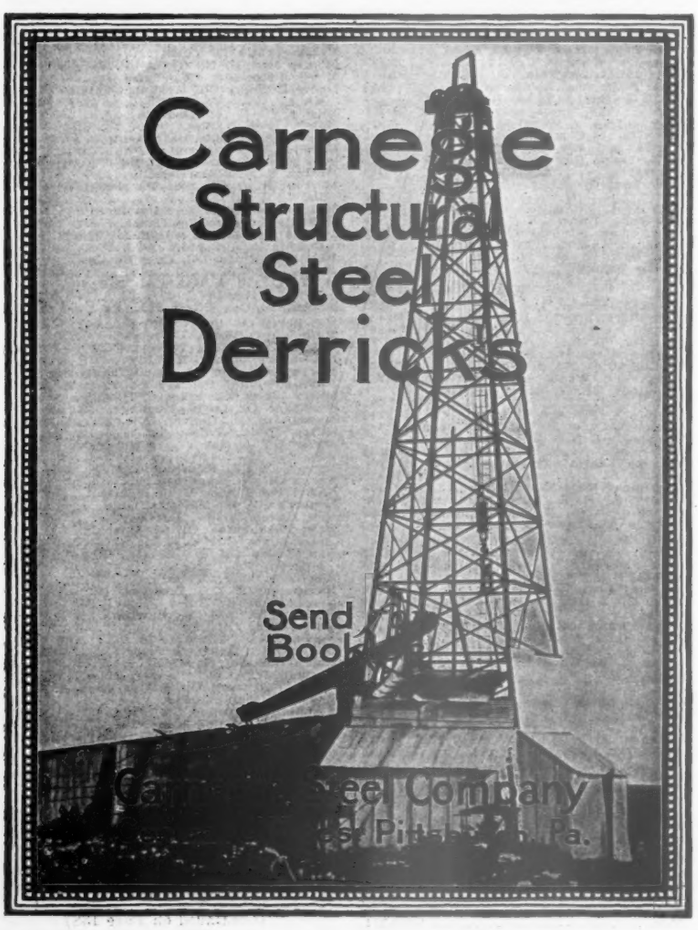

PACKERS DATE BACK TO DRILLING OF DRAKE WELL

(Continued from Page 133)

The packer is run on tubing. A section of tubing extends through the shell of the packer designed to fit the next larger size of casing or the wall when expanded. The void between the packer body and the tubing offers ready means for the escape upward of the oil and gas in the hole. By placing a disc in the tubing between the perforations and the working barrel, the well may be prevented from flowing through the tubing while the packer is being lowered.

As in the hook wall packers, when this packer reaches a position a few inches above the proper point where it is supposed to rest, the tubing is given a quarter turn, disengaging the hooks and allowing the slips to grab. In doing so, the valve at the top, formed by making a seat on top of the shell of the packer and forming a ball around the tubing to fit the orifice, is closed when the tubing is lowered. An excess of pressure on the oil during pumping can be relieved by cracking the valve at the top of the packer slightly by moving the tubing upward.

Numerous additional examples of packers could be cited, showing in detail the purposes of each, and the effective manner in which they operate. Packers have been used in the United States since the completion of the Drake well, with only a short interval. They have saved many wells, where water would have drowned out production and are directly responsible for many millions of barrels of oil recovered. That they are in great favor with producers is seen by the large number of manufacturers in the field and the immense shipments of packers which go out from their places. The oil well packer has served the industry well and can be expected to add materially in the future to its enviable record of past achievements.

MORE EFFICIENT FUEL USE

One of the papers discussed at the London World Power Conference was by F. J. Leathers on "Fuels and Their Supply for Sea Transport." In this reference is made to the relative values of coal and oil as sources of energy for sea transport, and while it is argued that the consumption of liquid fuel is likely to make further progress in the mercantile marine, it is not likely to displace coal entirely. Mr. Leathers states that the efforts of marine engineering have for a great many years been directed to the more efficient use of fuel, and the measure of the success obtained may, he says, be judged from the fact that whereas in the early days of the steamship coal consumption was anything from 51 lbs. to 10 lbs. per i.h.p., the figures has in modern practice been as low as 1.25 lbs. per i.h.p.

RUSSIAN OIL FOR HUNGARY

It is reported that a group of Hungarian refineries have been engaged, with the consent of the Hungarian Government, in negotiations with the Russian Soviet representatives in Berlin, with a view to the purchase of large quantities of crude Russian oil. A Budapest correspondent states these negotiations have resulted favorably, and that Russia is to deliver to the Hungarian refineries 35,000 tons of crude. This oil will come by way of the Black Sea and the Danube, and will provide material for the Hungarian refineries to work on for some months to come, while further negotiations are proceeding with the Russian Government representatives.

CITY TO SELL GASOLINE

The City of Chelsea, Mass., will open seven stations where gasoline will be sold at 16 cents a gallon, 4 cents cheaper than the prevailing price in Greater Boston. Mayor Quigley of Boston said he could buy an unlimited supply of gasoline for 14 cents a gallon.

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OKLAHOMA PRODUCTION SHOWS BIG INCREASE

(Continued from Page 135)

Ohio-Osage Oil Co., Ochelata	3,879
O'Hornett, C. J., Henryetta	1,167
Oil State Petroleum Co., Enid	39,836
Oklavania Oil Co., Tulsa	22,396
Oklausa Oil & Gas Co., Jackson, Tenn.	207
Okla-Penn Oil Co., Tulsa	1,373
Oklahoma Prod. & Ref. Corp., Columbus, Ohio	336,495
Oklahoma-Texas Ref. Co., The, Grandfield	44,486
Oklarado Oil Co., Okmulgee	818
Okmulgee Pet. Corp., Okmulgee	571
Olean Pet. Co. (W. R. Page), Bristow	195,826
Olsen, Mrs. A., Drumright	802
Olson, A. O., Ardmore	313
O'Neil Petroleum Co., Milwaukee, Wis.	307
Oregon Oil Co., Tulsa	325
Orion Oil Co., Cushing	417
O'Rourke, Ed, Tulsa	3,525
O'Rourke, E. W., Tulsa	3,525
O'Rourke, Tom, Tulsa	3,525
Osage Development Co., Bartlesville	13,299
Osage Allegheny Oil Co., Bartlesville	311
Osage Arrow Oil Co., Ponca City	1,866
Osage Prod. & Ref. Co., Bartlesville	5,599
Oswego Pet. Co., et al, Tulsa	1,274
Otstot Development Co., Blackwell	3,770
Ottawa Oil Co., Wellsville, N. Y.	323
Overton, C. H., Tulsa	1,834
Overton, C. H. & G. H. Hurford, Tulsa	325
Owl Oil Co., Loco	8,287
Owsley, D. L., Tulsa	1,363
Page, Chas., Trustee, Sand Springs	8,083
Page Oil Syndicate, Clarinda, Iowa	1,132
Page, Chas., Geo. Kinney & C. W. Kingsbury, Sand Springs	1,343
Page, Chas., C. W. Kinney, C. F. Tingley & C. B. Stuart, Sand Springs	438
Page, Chas., Geo. Kinney & C. W. Kingsbury, Sand Springs	1,770
Page, Chas., Geo. Kinney, C. W. Kingsbury & C. F. Tingley, Sand Springs	69
Painter, J. W., Nowata	425
Painter & Stager, Nowata	131
Painter, Stager & Higgins, Nowata	1,082
Panama Oil & Gas Co., Holdenville	1,024
Panhandle Refining Co., Wichita Falls, Tex.	1,291
Panther Oil & Dev. Co., Bartlesville	168
Papoose Oil Co., Tulsa	111,310
Papoose, Swindler, et al, Tulsa	27,206
Paraffine Oil Co., Houston, Tex.	8,697
Paragon Oil Co., Tulsa	6,561
Parker, D. F., Trustee, Okmulgee	282
Parks Oil Co., Chelsea	984
Patchen, M. O., Estate, Bartlesville	874
Patterson, M. R., Bartlesville	6,148
Patterson, R. A., Muskogee	14
Patterson & Swain, Bartlesville	378
Pattrell, E., Bartlesville	216
Pauls Valley Oil & Gas Co., Pauls Valley	458
Paxton Oil & Gas Co. & Theodore Oil & Gas Co., Tulsa	264
Peer Oil Corp., Tulsa	5,480
Pelham Pet. Co., Tulsa	1,464
Penmar Oil & Gas Co., Okmulgee	11,089
Pennhoma Oil Co., Pittsburgh, Pa.	277
Pennok Oil Co., Tulsa	224,686
Penny Oil Corp., Tulsa	2,911
Pennsylvania Oil Corp., Warren, Pa.	326
Perkins, F. E., Tulsa	1,997
Perkins, J. J., Wichita Falls, Tex.	3,762
Peters, Chas. B., Tulsa	534
Peters Pet. Corp., Tulsa	55,685
Petroleum Co., The, Tulsa	5,796
Petroleum Co., The, & M. H. Moser, Tulsa	14,420
Pettigrove, A. H., Dewey	1,352
Phalin, L. P., Okmulgee	786
Phillips Oil Co., Chelsea	1,621
Phillips Pet. Co., Bartlesville	2,974,475
Phillips, Waite, Co., Tulsa	271,729
Phillips & Miam, Chelsea	21,926
Pierce Pet. Corp., New York, N. Y.	4,751
Pine, R. D., Receiver, Okmulgee	171
Pine, W. B., Okmulgee	60,158
Pine, W. B., Trustee, Okmulgee	1,468
Pioneer Oil Development Co., Oklahoma City	177
Planters Oil & Gas Co., Jackson, Tenn.	632
Plover Drilling Co., Bartlesville	4,832
Plumb, A. O., Depew	2,776
Plymouth Pet. Co. et al, Tulsa	15,153
Polar Prod. & Gasoline Co., S. J. Smith, Receiver, Sapulpa	1,452
Pooler Creek Oil & Gas Co., Tulsa	443
Post Oak Crude Oil & Gas Co., Logan, Iowa	1,090
Potter Oil Co. of W. Va., New York, N. Y.	30,079
Prairie Oil & Gas Co., The, Independence, Kans.	1,601,535
Prairie Oil & Gas Co., Trustee, W. M. Graham Oil & Gas Co., Independence, Kans.	7,445
Prescott & Snider, Kansas City, Mo.	183
Priddy, W. M., Wichita Falls, Tex.	1,336
Price, Ernest, Muskogee	302
Price, Ernest, et al, Muskogee	65
Prince, C. V., Okmulgee	605
Price Oil Co., Pawhuska	8,817
Probst, Geo. C., et al, Tulsa	235
Probst, Geo. C. & Jas. B. Morrison, Tulsa	3,164
Producers & Refiners Corp., Tulsa	349,543
Progressive Producing Co., Kansas City, Mo.	582
Pulaski Oil Co., Tulsa	52,556
Purdy, R. E., Blackwell	243
Pure Oil Co., The, Columbus, Ohio	619,861
Quinlan, C. P., Tulsa	3,866
Quinlan, Felix, Tulsa	309
Rabbitts Foot Oil Co., Davenport, Iowa	10,880
Ramsey Oil Co., Caney, Kans.	5,406
Ranger Gulf Corp.-Okla., Tulsa	11,027
Rayeomo Oil & Gas Co., Orrick, Mo.	1,011
Red, R. D., Tulsa	1,958
Red Bank Oil Co., Tulsa	144,042
Redoak Oil Trust, Ardmore	11,426
Reed, H. W., Agt., Nowata	745
Reesman, S. S., Tulsa	108
Regal Oil Co., Pittsburgh, Pa.	2,134
Regal Oil & Gas Co., Tulsa	17,835
Reinhardt, C. H., Chelsea	872
Reliance Oil Co. of Okla., Houston, Tex.	7,106
Reliance Oil Co. of Texas, Houston, Tex.	4,601
Reno Oil Co., Sistersville, W. Va.	2,440
Reno Oil Co. & E. J. Flynn, Sistersville, W. Va.	2,991
Republic Oil & Ref. Co., Rock Island, Ill.	333
Reynolds, W. G., Okmulgee	42
Reynolds Oil & Gas Co., The, Independence, Kans.	1,113
Rhodes, G. R., Tulsa	45,768
Rice, T. E., & Frank Brewster, Talala	500
Rice Creek Producing Co., Tulsa	747
Richards, A. M., Chelsea	2,433
Richmond Gasoline Co., Tulsa	385
Riddle, Mabel L., Estate, L. B. Riddle, Trustee, Marietta, Ohio	73
Ridley, R. C., Oklahoma City	11,137
Rigdon, Geo. R., Kansas City, Mo.	257
Rigdon & Bruen, Kansas City, Mo.	4,804
Riner, J. J. et al, Nowata	1,238
Riverland Co., Tulsa	9,399
Robertson, Glass & Harmon, Nowata	883
Robinson, E. L., Tulsa	24,882
Robson, H. J., Wichita, Kans.	1,088
Rockland Oil Co., Ardmore	68,683
Rogan Oil Co., Tulsa	2,024
Rogers, The A. H., Estate, Webb City, Mo.	1,079
Rood, Foster & Meloy, Bartlesville	1,203
Rose, J. E., Muskogee	69
Rose City Oil Co., Memphis, Tenn.	519
Ross, C. O., Coffeyville, Kans.	582
Roth, C. E., Independence, Kans.	5,163
Roumania Oil Co., Ardmore	486
Roxana Pet. Corp., St. Louis, Mo.	1,126,140
Roxoline Pet. Co., Oklahoma City	1,090
R. & M. Oil Co., Hominy	646
Rubana Oil Co., Wichita, Kans.	178
Ruth Fuel Co., Bartlesville	3,067
Ryan Consolidated Pet. Co., Bartlesville	19,684
Sammel, J. B., & W. B. Stewart, et al, Robinson, Ill.	389
Sanders Oil Co., Tulsa	9,042
Sanders Oil & Gas Corp., Tulsa	836
Sanderson, M. P., Hominy	100
Sankey Oil Co., Fort Worth, Tex.	263
Savoie, T. L., Tulsa	1,634
Savoy Oil Co., Tulsa	33,231
Schaffer, Danner & Snowden & McSweeney Co., New York, N. Y.	1,333
Schermerhorn, J. B., Minneapolis, Minn.	179,166
Schermerhorn-Young Co., Minneapolis, Minn.	27,421
Schmidt, Louis & Louisa K., Sapulpa	480
Schock, Jas. J., Okmulgee	254
Schoenfeld, Chas. H., J. F., Milliken, Geo. C. & Karl M. Probst, Tulsa	555
Schonwald, Dave-Receiver Cosart Oil Co., Blackwell	5,490
Schurman, H., Fort Smith, Ark.	134
Scotland Oil Co., Robinson, Ill.	661
Scott, Eura, Los Angeles, Cal.	2,966
Scott, W. F., Kansas City, Mo.	316
Scott & Rheym, Chelsea	307
Seagrove, F. S., Baxter Springs, Kans.	197
Selby Oil & Gas Co., Tulsa	27,177
Sellers, H. M., Bartlesville	331
Sells, M. C., Trustee, Muskogee	641
Shaffer, C. B., Trustee, Chicago, Ill.	777
Schaffer, J. E., Tulsa	1,493
Schaffer Oil & Ref. Co., Chicago, Ill.	276,760
Schaffer-Mankin Oil Co., Tulsa	4,661
Shear & Marcus Oil Co., Shear & Co., & M. Shear, Bradford, Pa.	1,106
Sheeders, Frank S., Pawhuska	238
Sheeders Oil & Gas Co., The, Pawhuska	2,857
Sheedy, Frank, Independence, Kans.	2,022
Sheets Bros., Copan	1,974
Sheldon, Don, Muskogee	16
Sheridan Oil Co., Tulsa	38,616
Sheridan Oil Co., Trustee, Tulsa	119
Shertzer Bros., Dewey	4,216
Shoreline Oil & Gas Co., Tulsa	55,662
Short Grass Oil Co., Norton, Kans.	2,242
Shufflin, M. B., Coffeyville, Kans.	1,184
Shuler & Fischer, Tulsa	1,788
Shulthis, A. W., Estate, Independence, Kans.	1,617
Siaco Oil Co., et al, New York, N. Y.	396
Sidwell Drilling Co., Sapulpa	1,540
Siebler, Ben, Cincinnati, Ohio	288
Sigana Oil Co., Cleveland, Ohio	188
Siggins Shope & Co., Coffeyville, Kans.	501
Silurian Oil Co., The, St. Louis, Mo.	90,940
Simmack Oil & Gas Co., Wichita Falls, Tex.	173
Simms Oil Co., Dallas, Tex.	150
Simons, I. D., Tulsa	7,857
Simpson-Fell Oil Co., Ardmore	32,209
Sinclair Oil & Gas Co., Tulsa	1,468,563
Skeeter Oil & Gas Co., The, Garber	1,387
Skelly Oil Co., Tulsa	1,906,614
Skelton, L. S., Estate, Okmulgee	6,616
Skelton-Moore Oil Co., The, Bartlesville	8,233
Slick, T. B., Clarion, Pa.	267,763
Slick Oil Co., Tulsa	2,447
Sloan, E. H., Tulsa	365
Sloan, J. V., Realty Co., Tulsa	2,622
Smith, C. R., Ardmore	8,617
Smith, C. T., Trustee, Okmulgee	3,146
Smith, D. M., Okmulgee	1,765
Smith, E. T. & Co., Bartlesville	488
Smith, G. J., Tulsa	74,189
Smith, J. T. & Eugene B., Sapulpa	146
Smith, Margaret L. & Chas. Robt., Jr., Ardmore	17,635
Smith, Mrs. Mary S. & Marie S., Ardmore	22,908
Smith, Samuel H. Oil Co., Tulsa	479
Smith, T. K., Tulsa	5,044
Smith, Wesley M., Miami	31
Smith, Will H., Ardmore	8,003
Smith, Will H., Trustee, Ardmore	419
Smith, Brewer & Gillette, Tulsa	4,674
Smith & Steinberger, Tulsa	2,800
Snowden-Danner et al, Tulsa	3,693
Snowden & McSweeney Co., New York, N. Y.	7,653
Southern Oil & Gas Co., Coffeyville, Kans.	2,341
Southwestern Oil Fields Co., Okmulgee	30,474
Southwestern Oil, Gas & Coal Co., Independence, Kans.	2,882
Southwestern Pet. Co., Tulsa	241,718
Southwestern Pet. Co., J. A. & Paul Lovell & W. T. Hastings, Tulsa	1,254
Southwestern Pet. Co., P. H. Lord, Estate, Chas. S. & Henry C. Lord, Tulsa	3,528
Spangler, C. W., Tulsa	734
Speary Bros. & Mills, Marietta, Ohio	3,216
Sperata Oil Co., Bartlesville	697
Spinney, Geo. R., Tulsa	2,962
Sprague Oil Co., Ardmore	16,186
Spring Oil Co., Independence, Kans.	3,276
Stager, J. A., Nowata	951
Stager & Cornelius, Nowata	574
Stake Oil Co., Independence, Kans.	882
Staley & Wynne, Wichita Falls, Tex.	345
Stalker, C. E., Tulsa	62
Standish Oil Co., Bartlesville	4,655
Stauffer, Ralph D., Tulsa	753
Stearns Drilling Co., Okmulgee	1,734
Stein, P. H. & M. S. Mussellem, Muskogee	848
Steinberger, C. A., Tulsa	2,351
Stephens, C. S., Coffeyville, Kans.	197
Stephens, W. C., Shawnee, Okla.	391
Sterling Gas & Oil Co., Columbus, Ohio	664
Steyner Oil Co., Bartlesville	22,482
St. Louis-Alluwe Oil & Mining Co., St. Louis, Mo.	172
Stout, W. E., Parkersburg, W. Va.	595
Stralem, C. I., Tulsa	667
Striker, John H., Tulsa	351
Strimpie, J. A., Janesville, Wis.	246
Strozier, Marshall, Fort Smith, Ark.	990
Studebaker, E. H., South Bend, Ind.	550
Strum, H. L., Ardmore	440
Sullivan, E. J., & W. C. Dickey, Bartlesville	1,120
Sullivan, M. J., Kansas City, Mo.	71
Summit Oil Co. & Sand Fork Gas & Pet Co., Bartlesville	666
Sunbeam Pet. Co., Tulsa	1,574
Superior Oil Corp., Lexington, Ky.	108,253
Suppes, G. B., R. E. & C. E., Tulsa	15,661
Suppes & Breslin, Tulsa	1,540
Suppes Petroleum Co., Butler, Pa.	1,380
Sutherland Pet. Co., Ardmore	20,474
Swaim, Guy, Bartlesville	309
Swanson, John, Fred Swanson Estate, & Dan Kelly, Marietta, Ohio	1,888
Swanson, Fred Estate, John Swanson, E. H. Brady & Dan Kelly, Marietta, Ohio	1,869
Swastika Oil Corp., Tulsa	168
Sweeney, J. F., Tulsa	264
Sweeney, J. F. & Co., Tulsa	11,622
Sykes, C. E., Ardmore	2,272
Tabler, H. A. & Williams, Tulsa	1,535
Taft Oil Co., Independence, Kans.	2,909
Tait, S. W., Montpelier, Ind.	521
Terrell Co., The, Terrell, Tex.	998
Terwilliger, C. H., Tulsa	4,213
Test Oil Co., Bradford, Pa.	5,130
Testlog Oil Co., Tulsa	703
Texas Co., The (Prod. Dept.) Tulsa	654,809
Texas-Oklahoma Inv. Co., Independence, Kans.	1,836
Texas Pacific Coal & Oil Co., Thurber, Tex.	91,525
Texmex Oil Co., Tulsa	3,666
Texokan Producing Co., The, Coffeyville, Kans.	716
32nd Oil & Gas Co., Ardmore	4,918
Thompson, J. H., Okmulgee	1,608
Thompson, J. N., Tulsa	2,119
Thompson, J. N., W. N., & R. B., Tulsa	350
Thompson, Milton, Cushing	355
Thompson, M. W. (Thompson & Black, Inc.) Tulsa	17,176
Thompson, Roy B., Tulsa	38
Thompson, R. D., Okmulgee	2,799
Thompson, Wm., Trustee No. 2, Tulsa	30
Thompson, Wm. & Roy B., Tulsa	173
Thompson, Oil & Gas Co., Tulsa	7,514
Thompson, Jordan, et al, Okmulgee	7,466
Thompson & Welder, Cleveland	1,433
Thompson, Welder & Neal, Cleveland	3,938
Thurmond, T. A., Ardmore	9,735
Thurman Oil Co., Bartlesville	732
Tidal Oil Co., Tulsa	393,898
Tidal Osage Oil Co., Tulsa	274,476
Tiger Pet. Corp., Tulsa	3,146
Tiger Mountain Oil Co., Tulsa	6,961
Tighe, J. P., Arkansas City, Kans.	856
Tighe-Osage Oil Corp., Arkansas City, Kans.	866
Title Guarantee & Trust Co., Trustee Hector, Crandall, et al, Tulsa	87
Title Guarantee & Trust Co., Trustee M. R. & J. K. Putnam, Tulsa	252
Titus, C. W., et al, Tulsa	82,183
Todd, E. G., Cleveland	309
Togo Oil Co., Tulsa	497
T. O. Petroleum Co., Muskogee	1,048
Trainer, J. E., et al, Salem, W. Va.	487
Trainer Oil & Gas Co., Bartlesville	407
Transcontinental Oil Co., Pittsburgh Pa.	128,700
Traywick, N. E., Okmulgee	138
Trefts, John C., Buffalo, N. Y.	531
Troy Oil & Gas Co., Sapulpa	6,112
Trumbo, A. C., Muskogee	14
Tull Oil & Gas Co., Yale	173
Tulsoma Oil Co., Tulsa	613
Turner, T. E. & T. C., Mounds	9,001
Twin Hills Oil & Gas Co., Tulsa	1,531
Twin State Oil Co., The, Tulsa	495,079
Tyrrell, H. C., Tulsa	331
Upp, O. E., et al, Tulsa	247
Upp, O. E. & Vick Oil Co., Tulsa	297
Upp-Walker, et al, Tulsa	1,261
Urschel, C. F., Oklahoma City	8,711
Urschel, F. S., Oklahoma City	8,711
U. S. Oil & Gas Co., Tulsa	16,458
Utah Oil Corp., Okmulgee	4,781
Vance, S. E., Tulsa	1,088
Van Dall, Geo. I., Bartlesville	205
Van Dall Brothers, Bartlesville	1,285
Van Horn, R. V., Trustee, Clifton Forge, Va.	722
Van Moss Oil Co., Bartlesville	1,105
Vensel, F. E., Tulsa	227
Vesta Oil Co. & Gas Co., Kansas City, Mo.	158
Vicmar Oil Co., Tulsa	4,389
Victoria Oil Co., Tulsa	1,166
Vowell-Jackson, Sapulpa	8,114
Wachob, Trombo & McKay, Muskogee	114
Wagoner Oil & Gas Co., Baxter Springs, Kans.	720
Wah-Shah-She Oil Co., Bartlesville	8,432
Waite, C. L., Los Angeles, Cal.	1,961
Waite, Fannie C., Los Angeles, Cal.	1,969
Walda Oil & Gas Co., Carlisle, Pa.	12,311
Walker, P. G., Jr. & O. K. Eysenbach, Tulsa	435
Walker, W. L., Tulsa	66
Walker Oil Co., Tulsa	8,790
Wall Oil Co., Tulsa	906
Wallace, J. E., Okmulgee	449
Walsh Oil Co., The, Tulsa	7,316
Ward, D. M., Peabody, Kans.	371
Ward Oil & Gas Co., Tulsa	8,906
Warner-Caldwell Oil Co., Titusville, Pa.	22,307
Warren Company, Bartlesville	2,977
Watchorn, Robert, Oklahoma City	4,886
Watchorn Oil & Gas Co., Oklahoma City	116,394
Wayne Oil Co., Tulsa	3,279
Weart, J. Foss, Bartlesville	655
Weber, Howard No. 5, Bartlesville	1,817
Weber, Obina & Beattie, Bartlesville	666
Webster, G. W., Tulsa	5,427
Wedell Drilling Co., Okmulgee	499
Welch Gas & Oil Co., Stillwater	805
Welder, L. D., Estate, Geo. W. Reynolds, Admr., Cleveland	61
Welder, Myrtle, Estate, Geo. W. Reynolds, Admr., Cleveland	84
Wells, N. D., Tulsa	947
Wellsville Oil Co., Wellsville, N. Y.	2,169
Welsh, J. D., Knsas City, Mo.	614
Wertzberger, D. D., Tulsa	491
Wesley, R. D., Norton, Kans.	35
West, J. H., Tulsa	3,390
Westerly Oil Co., Bartlesville	3,560
Western American Oil Co., Bartlesville	2,338
Western Natural Gas Co., Tulsa	2,157
Western Oil Corp., Tulsa	12,883
Westheimer & Daube, Ardmore	158,279
Westland Oil Corp., Tulsa	5,090
Wettack, Maud T., Nowata	366
Wheeler, L. C., Okmulgee	1,427
White Eagle Oil & Refning Co., Wichita, Kans.	46,476
Whitehall Petroleum Co., Tulsa	2,052
Whitehead Oil Co., Sapulpa	2,116
Whitehill, B. F., Tulsa	1,561
Whitehill, H. J., Tulsa	249
Whitehill, Donovan & Whitehill, Tulsa	889
Whitehill, Donovan, Hayden & Whitehill	799
Whitehill & Glass, Tulsa	1,494
Whitehill, Smith, Shaw, et al, Marietta, Ohio	1,653
Whittier, M. H., Tulsa	1,998
Wickett, K. L., Tulsa	644
Wilcox, H. E., Independence, Kans.	70
Wilcox, H. F. Oil & Gas Co., Tulsa	440,819
Wilcox, H. G. & E. M. Oswalt Tulsa	366
Wilcox, Oswalt & Wilcox, Indianapolis, Ind.	662
Wilhoit, Ethel J., Exec'x., & R. M. Jones, Trustee, Kansas City, Mo.	1,998
Wilhoit, J. C., No. 2 Account, Kansas City, Mo.	3,530
Wilkinson, Eugene, Nowata	3,303
Willis Oil & Gas Co., Cushing	5,565
Wilson, Hiram C., Tulsa	14,139
Wilson, M. A., Dewey	964
Wilson, Jackson, Sapulpa	133
Wineland Oil Co., Boynton	677
Winemiller, J. H., Tulsa	228
Winona Oil Co. of Delaware, Tulsa	66,644
Winters, M., Independence, Kans.	630
Winters Oil Co., Bradford, Pa.	773
Wise & Jackson, Sapulpa	21,445
Wiser Oil Co., The, Bartlesville	69,303
Withington, Margaret M., Marietta, Ohio	249
Withington Oil Co., Dewey	1,537
Wittmer Property, Trustees, Pittsburgh, Pa.	1,871
Wolfe, F., Tulsa	231
Wolfe, Frank, Trustee, Tulsa	725
Wolfe Oil Corp., Bristow	11,622
Wolverine Pet. Corp., St. Louis, Mo.	666,355
Wood, T. J., Tulsa	13,583
Wood Oil Co., Tulsa	87,156
Woodard, Geo. E., Nowata	1,235
Woodard-Burkett-Woodard	1,341
Woodard-Woodard, Nowata	847
Woodard-Woodard Tools, Nowata	89
Wright, J. H., Sapulpa	2,734
Wrightsman, Pet. Co., Tulsa	500
Wunderlich, I. L., Morris	95
York Oil & Gas Co., Muskogee	7,599
Young, Louise, Tulsa	230
Young & Wilson, Dewey	439
Zahn & Crawford, Tulsa	1,884
Zelma Oil Co., Tulsa	397

Supplemental

Advance Oil Co., Advance Production Pool, Fort Worth, Tex.	339
All American Oil & Gas Co., Oklahoma City	4,365
Amster, N. L., Ardmore	87,250
Barr, W. E., Nowata	3,934
Big Four Oil Co., Independence, Kans.	194
Bloch Oil Co., Tulsa	1,659
Blum Oil Co., Nowata	132
Bonnell, John H., Grand Rapids, Mich.	1,547
Boop, Sitz, Glass & Calvert, Nowata	219
Bradnorking Oil & Gas Co., Tulsa	1,154
Brandes Oil Co., Nowata	83
Bridgman Oil Co., Nowata	300
Burton-Springfield Oil Corp., Tulsa	7,934
Butler & Johnstone, Oklahoma City	131
Canada Oil Co., Nowata	490
Champlin & Winkler, Enid	15,109
Connely, W. C., Tulsa	171
Continental Oil Co., Oklahoma City	99,199
Crews Estate Oil & Gas Production, Enid	25,086
Crosbie, Davis, Dean & Strum, Tulsa	2,161
Crosbie & Strum, Tulsa	3,694
Curtis & Aiken, Tulsa	12,722
Dwyer, J. D., Tulsa	165
Gatewood, Guy, Bartlesville	73
Gatewood, Pearl A., Bartlesville	871
Gilbert, D. Lawrence, Glendale, Cal.	799
Glass, J. Wood, Nowata	89
Glass & Weaver, Nowata	1,894
Goble, B. G., Tulsa	14,734
Hamon & Colcord, Ardmore	190
Haney, Phil P., Coffeyville, Kans.	689
Harrell, F. H., Ardmore	1,543
Hayden, John F., Tulsa	779
Hazen, Irwin R., Agt., Chicago, Ill.	

Entire Safety—

Regardless what the inlet pressure, up to 500 lbs., and it regulates at one reduction to the lowest pressure desired.

Fulton House Regulators

ALL house regulators are, of course, designed to reduce to a low pressure and are especially adapted for use in supplying private dwellings, whether connected to a high or low pressure service. But, there is **practical perfection** in every inch of the FULTON HOUSE REGULATOR.

When used for extreme high pressure (say from 100 to 500 pounds), where other regulators have been blown to fragments, or failed to work at all, we have never had an accident. Hundreds of these regulators are in use at isolated houses in the gas field, where gas is taken direct from the wells or high pressure lines.

Remember, that the FULTON HOUSE REGULATOR is only ONE member of the Chaplin-Fulton line of gas governors. It is well to bear in mind, when checking over your distribution system, that every member of the Chaplin-Fulton line is made to escape the defects you always find revealed after the winter's work.

Let us know what you need and we will quote you on the Chaplin-Fulton governor that fits.

The Chaplin-Fulton Mfg. Co.

Organized 1884—oldest builders of gas regulators in the country. Built in all sizes, from 1 inch to 24 inches; for all service, 1 oz. up to 1,600 lbs. pressure to square inch.

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Hivick, L. C. & J. P., Ardmore	469
Hollingsworth, H. L., Broken Arrow	39
Holly Oil & Gas Co., Tulsa	21,431
Jameson, John B., Concord, N. H.	2,189
King, C. A., Nowata	63
King, C. A. & Fred Bum, Nowata	394
Kistler, Emily, Tulsa	513
Layton Oil Co., Tulsa	514
Little Fay Oil Co., Tulsa	24,776
Marshall Oil Co., Nowata	251
Moore, J. A., Okmulgee	869
Mutual Oil Co., Tulsa	471
National Oil Development Co., Oklahoma City	11,725
National Union Oil & Gas Co., Blackwell	11,926
New England Oil & Pipe Co., Boston, Mass.	42,976
Oklahoma Eastern Oil Co., Tulsa	7,586
Oklahoma-Mexia Oil & Gas Co., S. T. Tackett, Trustee, Duncan	2,328
Omer Oil & Gas Co., Pittsburgh Pa.	557
Onyx Oil Co., Iola, Kans.	291
Parmenter, L. C., Muskogee	81
Parmenter, W. L., Lima, Ohio	2,438
Parmenter, W. L., No. 2, Lima, Ohio	397
Parrish Oil Co. & Reed, Nowata	3,626
Parsons, E. E., Okemah	1,181
Pilgrim Pet. Corp., Tulsa	1,676
Presbury, J. A., Pawhuska	798
Redd Oil Co., Tulsa	576
Ross, E. A., Tulsa	16
Sawyer, F. L., Trustee, Independence, Kans.	134
Smith & Daugherty, Nowata	195
Speirs, A. J., Jenks	897
St. Charles Oil Co., St. Charles, Mo.	497
Steinberger & McKinley, Trustees, Tulsa	1,715
Straight, Preston, et la., Bartlesville	1,828
Summers, Jack, Muskogee	1,122
Sunny Jim Oil Co., Tulsa	131
Tyce Oil & Gas Co., Bartlesville	1,901
Tyler, D. M., Dewey	1,409
Vandervoort & Hoss, Platt	445
Van Horn, E., Chelsea	177
Vensel, Elliott & Vensel, Tulsa	3,580
Warwock, L. H., Trustee, Nowata	379
Welsh, M. P., J. Welsh & C. T. Daugherty, Nowata	329
Western States Oil & Land Co, The, Casper, Wyo.	3,091
Worton, J. J., et al, Pawhuska	454
Total	39,299,695

FUEL OIL MARKET STRONG IN OKLAHOMA

(Continued from Page 22)

more widely utilized motor fuel grades and are not so much concerned in moving their comparatively small high gravity output. Buying was confined in Group 3 to the regular trade with no changes in prices over those prevailing last week in most instances.

The movement of naphtha is also confined to routine orders. Some naphtha was sold as low as 7 cents, but little of this was the 50-52, 450 grade. Blenders are inclined to seek lowest prices possible claiming that at present natural gasoline prices, their margin of profit, if any, is small. The situation in regard to U. S. Motor gasoline has been previously outlined.

Kerosene and Distillate

There were no changes in kerosene which the trade generally continues to label "strong." Two refiners in the Group are known to have advanced their prices ⅛-cent both for resale and direct to the trade, and claim to have obtained their usual number of sales. The Bureau of Mines reports previously mentioned show that the product occupies a strong statistical position with the outlook favorable for the remainder of the year, provided consumption shows the increase it did the last half of last year. The Sinclair Refining Co. as usual, was a large domestic buyer during the last week. The company is reported to have purchased around 100 cars at a price of 4 cents for 41-43 water white.

More buyers state it is difficult to secure immediate shipment on the better grades of distillates. The consuming season is not under way yet, but some buyers would make substantial purchases if they could secure price concessions. The market is firm, however, several refiners being content to store rather than sell at this time.

Long-time contracts are still being made. One refiner reports having come in competition with a contract based on the kerosene tank wagon offered by a refiner located outside the Group. This offer starts with a base price in line with the present spot market. It takes 70 per cent of any change in kerosene tank wagon market with a minimum and maximum price 1 cent below or above the base price.

Natural Gasolines and Blends

Chestnut & Smith Corp., the largest natural gasoline manufacturers in the Mid-Continent Field, aided the natural gasoline by large purchases during the past week. The company has purchased approximately 250 cars during the past 10 days. The purchase was for Grades A, B, and C, largely from Group 3 and North Texas plants. As a result of this purchase, Grade C advanced from a low of 6½ cents to 7 cents with very little available at that price in Group 3 the first of the week. Several manufacturers were, in fact, asking the same for Grade C as the absorption grades. The general market for the absorption grades was no higher than last week but the large purchase of Chestnut & Smith has served to place all grades in a firmer position, not only in Group 3, but the Mid-Continent Field generally. The blend market is unchanged.

Fuel and Gas Oils

Fuel oil for immediate shipment at present prices is scarce. Prices on all grades are 2½ cents higher than last week, due to this situation. At least three substantial orders were placed last week with Oklahoma refiners and the concerns benefiting are now out of the spot market. Several buyers are expecting the situation to become less tight within a few days and are endeavoring to cover their orders. Practically the same situation applies to gas oils. Buyers have been unable to shade 2⅝-cent price and no large amounts are available at that figure.

Neutrals and Wax

Neutral and wax prices are unchanged. One concern made a large shipment of neutral cylinder stocks during the past week. Others stated that their sales were average with no changes in prices. There is a good demand for wax with August output already largely sold.

FRANK M. BREENE ANSWERS LAST CALL

(Continued from Page 25)

development, following the lifting of the Foster lease. His work in the Osage Nation has won praise from producers, Indians and Government officials alike. He was active in the passage of the Yeager-Strain law which compelled oil purchasers in Oklahoma to buy oil rotably, making them in effect common purchasers.

His greatest hobby was his 1,700-acre ranch east of Ramona, Okla., where he kept a fine herd of blooded cattle. He was a thirty-second degree Mason and a Shriner, being a life member of Akdar Temple, Tulsa. He was a life member of the B. P. O. E.

Early in June Mr. Breene left Tulsa for Michigan. On his return, about two weeks later, he was forced to leave the train at Kansas City, Mo., due to his health, remaining in a hospital there six weeks. He was sent by physicians to a specialist in New York, and died after 10 days in the hospital there.

He was born on May 29, 1871, in Franklin, Pa. His first job was obtained when he was 13 years old, when he left home to work for a grocer in Pittsburgh, Pa. He returned home later and with his brother, Harry, and a brother, John L., who died eight years ago, entered the oil business, gaining practical field experience in every line. He was only 17 years old at that time. He advanced in his work, became a driller and then purchased an interest in tools and later became a drilling contractor and finally a producer. His experience took him over every section of the Eastern and Mid-Continent Fields and into Canada. He helped organize the Winona Oil Co. in 1904, and became its president in 1914.

Mr. Breene was a member of the First Presbyterian church, Tulsa, where the funeral services were held. The Masonic bodies were in charge of the services at the cemetery. It was the plan of his relatives that the body be placed in a mausoleum there until a private mausoleum could be constructed for his remains.

Mr. Breene is survived by his widow, a son, Maurice F., and a daughter, Mrs. Kirol Holm, and three brothers, Harry, E. C., and W. J., and one sister, Mrs. M. A. Hook, of New Lebanon, Pa.

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MOTOR FUEL SUPPLY INTERESTS EUROPE

(Continued from Page 32)

progressing by gradual evolution in the direction of becoming a practical and very valuable one, which will definitely solve the problem of Germany's liquid fuel supply.

Germany's Domestic Supply

In the meantime the German oil companies keep looking for dompstic oil fields. Quite recently their efforts have met with very much success. Last April it was reported that a new well which had struck oil near Nienhagen, Hanover, was producing about 700 bbls. of heavy oil a day, thus opening up important possibilities for the future expansion of the petroleum industry of Germany. About a month later other prospectors were fortunate enough in finding oil producing strata in the region of Auras and Schorbus (Lower Silesia), and in the region of Stralsund (Pomerania.)

After the Treaty of Versailles Germany's total oil output was about 60,000 tons per year. The new wells recently completed will undoubtedly add very materially to this amount.

One must mention also the fact that, for quite a long time, Germany has been a large producer of industrial alcohol. A mixture of this alcohol with benzol and tetralin has given very satisfactory results and is being rather extensively used in some parts of Germany.

Italy

Like France, Italy has been rather slow in realizing the utmost importance of getting an independent supply of liquid fuel. Much has been done lately by the Italian Government and private initiatives in order to reach this end.

Contrary to what happens in England, France and Germany, Italy does not dispose of an abundant domestic coal supply. Therefore, such processes as the carbonization or liquefaction of coal cannot be considered as a suitable means to solve Italy's problem of an independent liquid fuel supply.

Italy is therefore directing most of her efforts towards developing her domestic oil industry and increasing her crude oil production. After trusting Italian private oil enterprises with the task of attending to prospecting work throughout the Italian territory, and allowing them rather important amounts in order to help them in their work, the Italian Government has lately decided to grant to an American company, the Sinclair Oil Corp., a concession covering a good par of Central Italy. Although the grant of this concession seems to have led to some political troubles, one cannot fail to observe that the terms of the concession are very favorable to the Italian Government and that such concerns as the Sinclair Oil Corp. are most likely to locate the oil bearing strata which are bound to exist in Italy.

Moreover, Italy is trying to develop the use of gasoline sbustitutes. The Italian automobile and touring car clubs have decided to hold a competition tending to the creation of a national liquid fuel. The use of alcohol, manufactured in the country, is to be very strongly encouraged.

Belgium

The Belgium Government has organized a committee, called "Commission des Carburants" whose particular task is to study means to replace imported gasoline by a national liquid fuel. This committee, considering Belgium's abundant supply of coal, has already recommended that every effort be directed towards the development of a practical coal carbonisation device, and the extensive use of the Bergius process of liquefaction of coal.

Czecho-Slovakia

Outside of trying to develop her crude oil production, Czecho-Slovakia is very actively increasing her electric power industry. Moreover, considering that much industrial alcohol is being manufactured in the country, the Czecho-Slovakivan military administration has decided to use a mixture of alcohol and benzol, which is called Dynal-Kol. In order to favor the use of Dynalkol the taxes on national alcohol have been very materially reduced, while the import taxes on

B

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gasoline have been increased by 40 crowns per hundred kilos.

The "Institut Carbonifere of Czecho-Slovakia" is also attending to the question of coal carbonisation, and has recently installed, nearer the lignite mines of Brux (N. O. W. Bohemia) a plant to be used for the distillation of lignite.

From what has been said, one may consider that the young Czecho-Slovakian State, is not deprived of the elements necessary to help him solve the problem of a national liquid fuel supply.

Sweden

The various efforts of the Swedish general staff, of the "Kommers Kellegium." and "Scientific Academy of Engineers" have been mostly directed towards the use of Sweden's natural resources, which are represented by a large number of water falls, very extensive forest areas and rich oil shale beds.

The use of electric power for lighting and industrial purposes is developing to such an extent that hardly one-third of the kerosene imported into Sweden is now used directly for lighting.

Moreover, thanks to her immense forest reserves, Sweden has been able to create and develop a power-alcohol industry to which the Government is giving its utmost attention.

Sweden has tried, since the late war, during which no petroleum products could be bought in America by neutral countries, to develop an alcohol fuel, and is now experimenting with "bentyl," a liquid fuel based on sulphite alcohol manufactured by wood pulp mills. This fuel could be readily supplied in commercial quantities, since there are 22 sulphite distilleries in Sweden, whose annual alcohol output has been estimated at over 50,000,000 gallons.

Moreover it has been learned lately that two Swedish engineers had been able to discover a practical and economical process of distillation of oil shales, extensive beds of which, amounting to over 12,000,000,000 tons of workable material, are known to exist in Sweden.

Summary

As can be seen from the above data, many European countries are very actively busy trying to solve the problem of their independent liquid fuel supply. As a matter of fact, the results so far attained have not been really satisfactory. One cannot, however, fail to notice the efforts which are being made by the various countries so directly interested in the matter.

It remains yet to see to what extent the American specialists are justified in impressing on the mind of the whole world the fear of an early exhaustion of the United States oil fields. One cannot doubt, however, that their prophesies, whether true or not, are already resulting in an increase of the efforts being made by many countries in order to solve the problem of their own liquid fuel supply. This will not fail to result in reducing America's oil export trade, which fact will undoubtedly please those persons who, in America, are vigorously pleading in favor of an embargo on all oil products.

WYOMING SEVERANCE TAX

CASPER, Wyo., Aug. 9.—The Governor of Wyoming is campaigning for a severance tax that will include petroleum and its products in this State. The Governor's stand is that while the oil fields of Wyoming are considered worth about $2,000 000,000, the direct taxation amounts to only $90,000 while the farmers and communities not within the oil areas are practically bankrupt in many instances. The Governor also endeavors to show that the petroleum, coal, minerals other than these, and the vast water resources of the State are used mainly in other States while the profit to Wyoming is relatively small.

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Nine out of ten of the glass globes that surmount the gasoline filling pumps are bent and annealed with heat furnished by natural gas, according to the Pennsylvania public service information committee.

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MISSOURI INVESTIGATES PRICE OF GASOLINE

(Continued from Page 25)

said that after he had received his instructions from Mr. Crandall to go after the independents he "sold gasoline at any price to anybody" in an effort to beat the competition. He told the attorney general that it was such practices that caused him to resign from the Sinclair company and take a position with the Monark company of Kansas City, an independent concern. He remained but four months, he said, because of the "grief" in the oil business at that time, due to chaotic market conditions, which he inferred resulted from the fight on the independents by the Sinclair and Standard companies.

Standard as Stabilizer

R. O. Bone, Kansas City, puresident of the Penn Lubric Oil Co., first testified that the Standard Oil Co. had a stabilizing influence on the business because of the fear smaller dealers entertained for it, and then said that he did not fear the Standard, but later added if they threatened him "take it from me, I'd be good."

He declared that the rates are uniform in the towns where "the dealers have brains enough to know they must operate at a profit." He added that in some towns of Missouri secret rebates are allowed by the smaller dealers.

"Do you think they ought to be kept out of business for that?" Barrett asked.

"Oh, no, no. But I think they ought to be cured."

Barrett asked him if it was not a fact that he had told Fred Tate, special investigator for the attorney general, that he knew enough about the Standard Oil Co. to hang them.

"Oh, but I was joking," Bone replied. "I was just joking. Mr. Tate surely didn't take that seriously." He admitted he was an unwilling witness against the Standard for which he professed great respect.

At the close of Bone's testimony, John B. Clark, vice president of the Standard Oil Co. of Indiana, asked leave to cross-examine the witness or make a statement. Mr. Barrett accorded him the privilege of either and he elected to take the stand himself.

Vice President Clark on Stand

As he took the stand Mr. Clark said: "Bone's testimony has left an impression that we can't allow to go unchallenged." He then launched into a lengthy explanation of the Standard's methods of business. He denied that his company ever made agreements with dealers to maintain prices. The Standard's prices are based solely upon the cost of manufacture, except when they are forced to cut to meet local competition, he said.

George S. Allee, secretary of the Missouri Oil Men's Association, denied coming to Jefferson City three weeks ago for the purpose of obtaining an agreement from Glover and Wells, Texas Company agents, to refrain from selling gasoline to the Yellow Cab Co., at tank wagon rates.

Ben Turoff, part owner of the Norfleet and Turoff garage at Lees Summitt, who formerly operated a station pump station testified that in April, 1923, when the price war was raging in Kansas City the tank wagon price at Lees Summitt was maintained by the Standard in spite of complaints by him. In order to break the price he said he went to the Midland Refining Co. at Fifteenth and Blue River, where he purchased a wagon load at Kansas City prices. Within 12 hours, he declared, J. R. Bailey, local manager for the Midland, called on him at his garade and asked for a check for the difference in the Kansas City and Lees Summitt tank wagon rates, with the explanation that he thought he was an Independence, Mo., dealer, where the prices were the same as at Kansas City. Bailey told him that the Midland was not allowed to sell gasoline to dealers who operated pumps owned by the Standard. Turoff said he was unable to purchase more gasoline from the Midland so he bought from the Monark where he still

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obtains his supply. In the meantime he purchased his pumps and storage tanks from the Standard, so that he might conduct his business unhampered.

GENERAL W. J. HULINGS DIES AT OIL CITY, PA.

OIL CITY, Pa., Aug. 9.—Maj.-Gen. Willis James Hulings, aged 74 years, died at the home of his daughter, Mrs. Frank E. Stewart, Friday, after an illness of several months.

He was born in Rimersburg, Pa., July 1, 1850. He became a civil engineer and later was admitted to the practice of law. On April 28,1874, he was united in marriage with Miss Emma Simpson at Brooklyn, N. Y.

General Hulings was a pioneer resident of Oil City, succeeding his father, Marcus Hulings, in the oil and mining business. He was elected to the House of Representatives of Pennsylvania from 1881 to 1887; elected a member of the Senate of Pennsylvania in 1887 and 1888 and served in the Sixty-fifth Congress from 1913 until 1915 as a representative of the Twenty-eighth Pennsylvania district, being elected on the progressive ticket.

He was reelected to serve in the Sixty-eighth Congress during 1919 to 1921 as a Republican.

General Hulings, during the period between 1876 and 1912, served from private to Brigadier General in the National Guard of Pennsylvania. During the Spanish - American War he was Colonel in the Sixteenth Volnuteer Pennsylvania Infantry and was promoted by President McKinley to a brigadier generalship on August 8, 1898, for "meritorious conduct in action." From 1907 to 1913 General Hulings was brigade commander of the Pennsylvania National Guard. He was the first commander in chief of the National Association of Spanish-American War Veterans and was made a life member of the Sons of the American Revolution. He was a frequent visitor to Tulsa and the Mid-Continent fields.

His widow and the following children survive: Miss Florence Hulings, Massillon Ohio; Mrs. Harry A. Heilman, of Kittanning; Mrs. Frank E. Stewart, of Oil City; Marcus Hulings, of Terlingua, Texas; George, of Tulsa, Okla.; Willis, Jr., of Cleveland, Ohio; Joseph S., of Rutherford, N. J.; Garnett, of the United States Embassy, Tokio, Japan; Courtland, of Elizabeth, N. J.; and Norman M., of Tulsa, Okla.

INTERSTATE RECEIVER CONTINUED BY COURT

KANSAS CITY, Mo., Aug. 11.—Judge A. L. Reeves, of the Federal District Court of this city refused to dismiss a receivership action brought against the Interstate Refineries, Inc., by several stockholders. Leon H. Schwald has been appointed receiver. It was charged in the petition that officials of the company were seeking to defraud the stockholders through the organization of the Interstate Refineries Corp., of Virginia, which was to take over the assets of the Interstate Refineries, Inc. The petition asks that this alleged fraudulent sale be declared void. A further hearing of the case will be held in September and in the meanwhile the receivership will continue.

The officers of the old company are Ralph R. Langley, president; P. J. Kealy and C. S. Dodge, vice-presidents, and Nels Pederson, secretary and assistant treasurer. The same men are officers of the new company.

VACUUM OIL—SILICIA GEL

Charles E. Bedford, vice president of Vacuum Oil Co., states that the company is not in a position to make any announcement regarding the Silica Gel process. This is still in the hands of its engineers and has not yet been turned over for official operation and consequently the company at this time can not comment regarding its merits, efficiency or satisfaction.

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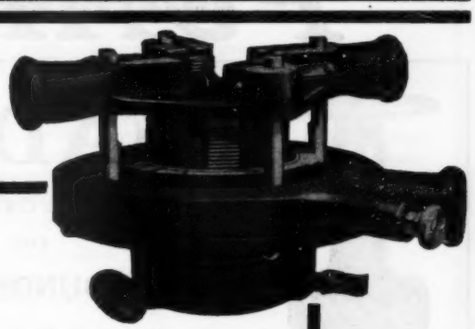

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PROGRESS TOWARD RESTORING BALANCE

(Continued from Page 28)

Exports	17,400,000	10,153,000	8,940,000
Added to stocks	79,578,000	82,244,000	62,575,000
	807,717,000	684,839,000	597,547,000
	1920	1919	1918
Prod.	442,929,000	378,367,000	355,928,000
Imports	106,175,000	52,822,000	37,736,000
Withdrawn from stk	.....	.....	23,510,000
	549,104,000	431,189,000	417,174,000
Dm. Con.	530,532,000	420,462,000	412,273,000
Exports	8,757,000	6,019,000	4,901,000
Added to stk.	9,815,000	4,708,000	.....
	549,104,000	431,189,000	417,174,000

The foregoing figures indicate that from January 1, 1919, to January 1, 1924, a period of five years, there were added to storage 238,920,000 bbls. of oil. This figure is less formidable when looked at with relation to consumption. It represents about 56 per cent of 1919 domestic and export consumption, but only 32 per cent of 1923 consumption.

Based on the Geological Survey figures of stocks at the close of 1923—333,053,000 bbls.—deducting the increase in stocks since 1919, stocks as of January 1, 1919, were 104,133,000 bbls., which equal 88 days' supply. Stocks on January 1, 1924, equal 168 days' supply, based on the 1923 rate of consumption.

Prices

The Bureau of Labor statistics show that the price of gasoline, expressed in percentage of 1913 prices, reached a peak of 170 for the year 1920 and 177 as of January 1, 1921. The peak in 1922 was 151 and the peak of 1923 was 132. The average for 1921 was 143, for 1922 was 140 and for 1923 it averaged 112. This indicates the course of oil prices generally.

From the viewpoint of return to the oil industry the decline in prices was unfavorable. That the public benefited materially from the lower prices due to overproduction is obvious. However, the oil industry could benefit also from the increased consumption if production could now be restricted. Incidentally, the statement that the lower prices were unfavorable to the oil business is only partly true. Some oil companies have been able to make money on the basis of prices that existed in 1921 and 1923. The majority, however, either lost money or made very little.

The decrease in prices since 1920 did not result in discouraging wildcatters, as might have been expected. The latter kept on working in the hope that a turn for the better was just around the corner. Wildcatting during the period mentioned was also accompanied by unusual luck in that a remarkable amount of new production was opened up.

Inasmuch as the arbitrary control of production seems impractical for one reason or another, the old method of reducing prices to the point where wildcatters and producers are absolutely discouraged must inevitably be employed.

The responsibility rests, of course, with individuals, but rules of competition often operate against the desire or better judgment of producers.

WEST VIRGINIA CONVENTION

Edwin Robinson, of Fairmont, secretary-treasurer of the West Virginia Oil & Natural Gas Association, has announced that the annual convention of the association will be held in Charleston, W. Va., September 17 and 18. Plans are now being formulated by Mr. Robinson and his associates.

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JAPAN AND RUSSIANS IN SAKHALIN DICKER

A Moscow copyrighted cable to the New York Times says the Russians and Japanese are about to resume negotiations which will decide whether the two countries henceforth shall be friendly or hostile. Russia insists on the evacuation by the Japanese of the northern or Russian half of Sakhalin. The Japanese are reported to have agreed to this in principle, but request in return the priority of oil exploitation over the territory to be evacuated—where they are said during the occupation to have located rich deposits, drilled wells and exported oil.

But this right of priority was ceded by Russia to the Sinclair Oil Corp. in a contract dated 1922.

At first sight it looks as though the Sinclair concern held the key to success or failure of the Russo-Japanese negotiations, able to dictate the terms whereon it would agree to permit the Japanese to take over or share in the rights in Sakhalin. Such terms might involve a reconsideration of the preliminary agreement reached last year between the Soviet Government and Mason Day, representing the Sinclair Corporation, which gave the latter a rich slice of the Russo-Caucasian Field in return for a cash loan declared by the under-secretary of the Soviet State Department, Litvinof, to amount to $250,000,000. The Sinclair Corporation, it is said, did not complete the agreement which lapsed.

The Soviet Government is inclined to raise the point of whether this agreement has the same force today as at the moment of signature. Mason Day and A. C. Veatch, chief of the Sinclair exploration department, rushed to Moscow a few days ago to defend their contract. Both sides profess full confidence in the legal strength of their position. The issue of the discussion is still impossible to foresee, but there can be no doubt of its importance.

A. C. BEDFORD SEES GOOD FALL BUSINESS

NEW YORK, Aug. 9.—"European conditions look a great deal better owing to the approaching settlement of German reparations," said A. C. Bedford, chairman of the Standard Oil Co. of New Jersey, returning on the Cunarder Aquitania from a business trip. "The outlook for fall business is very good here in America and we should forge ahead steadily. Improvement in Europe will help trade throughout the world. I feel more encouraged over the situation than in some time, and I really think Europe will get straightened out.

"European oil conditions are about like they are here. The consumption of fuel oil for navigation is steadily increasing all over the world.

"In Rumania they are undertaking to promulgate laws that will keep all the capital out of the country, and drive existing capital away. Not only the oil business but International Harvester, Baldwin Locomotive, and other American concerns have large investments there."

NEW FLOW TANKS AT WEWOKA

Roger Cole, district manager for the American Tank Car Co., has announced the arrival in Wewoka of the new centrifugal American gas and oil separator or flow tank. This centrifugal separator is an invention of the president of the American Tank Co., George Walker, and is said to be an entirely new departure in the design of flow tanks. The Carter Co. has installed several on its property in the Cromwell Pool.

LINE TO COST $4,000,000

The new pipe line to be laid into the new Moffat oil pool in Colorado by the Prairie Oil & Gas Co will cost around $4,000,000, according to reports. The line will run to Parco, Wyo., where the Producers & Refiners Corp., controlled by Prairie, has a refinery.

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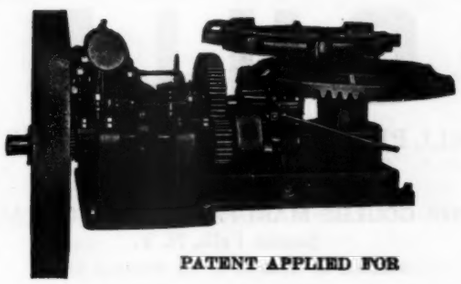

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E. P. WHITCOMB DIES; LONG PRESIDENT OF UNION NATURAL GAS

PITTSBURGH, Pa., August 9.—Funeral services for Eugene Pitt Whitcomb, president and general manager of the Union Natural Gas Corp. and director in many other companies, who died in Johns Hopkins Hospital at Baltimore last Saturday, were held at his late residence, 5521 Aylesboro Avenue, Squirrel Hill, this city. There was a profusion of flowers sent by personal friends and the companies with which Mr. Whitcomb was associated. The pallbearers were H. J. Haggerty, Lester H. Simons, J. F. Zook, David E. Mitchell, A. A. Armstrong and Hartman Stehley.

Mr. Whitcomb was 64 years of age, and a native of New York State. He grew to manhood at Belvidere, N. Y.,

Eugene P. Whitcomb

where the family home was located. He went to Bradford, Pa., about 40 years ago and was identified with the Duke Lumber Co. Later he became identified with the T. N. Barnsdall interests in Bradford, and when the offices were transferred to Pittsburgh, he moved here, about 20 years ago.

Mr. Whitcomb was made first vice president of the Union Natural Gas Co. of Pittsburgh, and then elevated to the position of president of the same corporation, which he has held for 15 years.

The Union National Gas Corp., of which he was the head, included the Manufacturers' Gas Co., of Bradford, and the Logan Gas Co., of Ohio.

In addition to being the active head of the Union Natural Gas Corp., Mr. Whitcomb was a director in the following companies: Connelly Tank Co.; Connecting Gas Co.; Oklahoma Natural Gas Co.; Reserve Gas Co., and the Shell Union Oil Corp.

In the death of Mr. Whitcomb, the oil and gas industry loses an outstanding figure. He had been engaged in the business since early manhood and was regarded as one of the best informed men in the business.

MOROCCO OIL RUMOR

The Denver Post says announcement is expected any day that Henry M. Blackmer, chairman of the board of the Midwest Refining Co., has obtained from the Spanish Government a concession to explore for oil in Morocco. The story is based on the visit of Mr. Blackmer to the King of Spain, but an official says he feels certain there is nothing to the report so far as concessions are concerned.

VENEZUELAN OIL CONCESSIONS

London reports Venezuelan Oil Concessions Holding Co. will increase its capital by issuance of 600,000 additional ordinary shares of £1 each.

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Geologist Reports Against Shooting of Flood Wells

BRADFORD, Pa., Aug. 9.—That wells drilled for water, in the flooding process, should not be shot, is one of the conclusions derived from a visual examination of the core drilled through the Bradford oil sand at the test well on the Jackson and Bryner property at Custer City, Pa.

This is shown on a report made for the Bradford Era by L. S. Panyity, petroleum geologist, who has made the visual tests and kept a log of the core as it was pulled from the well. This information has been turned over to the experts of the United States Geological Survey as a basis upon which to found laboratory work in studying the sand to determine the possibilities of the local field and better means of oil extraction.

Although delayed by a series of accidents at the test well, the core taking was successfully concluded, sand core having been taken to a depth of 1,293.83 feet from the surface, or 313.17 feet above sea level, the mouth of the well being at an elevation of 1,606 feet above sea level.

Mr. Panyity's Report

The final report of Mr. Panyity, which is being awaited with much interest by oil men, is given below. It is expected that reports from the tests to be made by the United States Geological Survey will be available in about two months. Mr. Panyity's report follows:

The well was first drilled with standard tools to a depth of 1,200 feet steel line measurement, then the drilling with diamond rotary outfit commenced, its starting point being 10 feet above the Bradford oil sand. The 10 feet of formation above the sand consisted of a lime formation and a calcareous, or limey shale. The typical Bradford sand was first noted at 1,240 feet and continued without any change for a distance of 17.25 feet, where a 3-inch shale parting is noticeable. From this point downward several other shale breaks are evident, the soft shales being more and more predominant toward the bottom. However, the sand showed oil even in the thinnest section and the last piece of sand, noted at 1,292 feet, being 2 feet from the bottom of the core hole and having a thickness of only 6 inches, showed oil just as strongly as any other sand in the section.

Sand Is Uniform

It is interesting to note that the diamond drill shows that the sand is very uniform throughout, having several shale breaks between, while the record of the standard drill would pndoubtedly show the bottom of the record as mixture of shale an dsand or simply a broken sand.

The few sections of sand shown from 1,282 feet down are somewhat darker in color than the sand above, and it is probably what the drillers term the black sand in the district.

Samples of the sands were placed in sealed jars throughout the core and these samples well be analyzed in Washington to determine the porosity and probable saturation. These laboratory tests will show the relative porosity of the oil-bearing formation throughout and will indicate the portion of the sand that may be considered more suitable for flooding. From a physical examination such as can be made in the field, the writer would say that the chocolate-brown sand from 1,240 to 1,275 feet, is the most suitable for flood purposes. However,, the laboratory tests will be more conclusive on this point. Should this contention be borne out by the laboratory test, it would be possible to plug off the bottom of the sand, that is the portion below 1,275, and any water excluded therefrom by the shale underlying this level and prevent any fast movement of water through the lower or more porous black sand. The shale between the zones would act as a very effective, impervious barrier to the migration of water and

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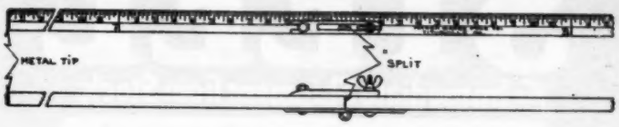

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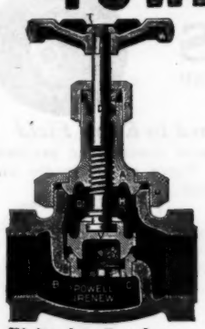

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would very successfully prevent the entrance of water in the porous underlying black sand.

Thickness of Sand

It is well known that certain parts of the field have a varying thickness of sand, ranging from zero to about 50 or 60 feet. The present core test indicates that the change in the thickness is due to the shale breaks coming in at different places taking the place of the sand in various intervals rather than that the sand simply thins out from either the top or the bottom.

The entire Bradford formation is fairly constant in thickness, but the amount of sandy beds vary, having considerable sandstone phase in some parts of the field and less at other points. Naturally where the sandstone predominates over the shale, the better oil producing formations are found.

One thing is strongly impressed by the core drill and that is that no matter how thin a sand layer may be found, it is just as full of oil as any similar thickness of sand at any depth in the well. It therefore seems reasonable to expect that in shooting oil wells, certain parts of the and which is generally regarded as broken sands or mixed shales and sand, shot would bring about a greater production from these thinner sands which are often overlooked or not regarded as "pays."

The writer feels certain that even the thinnest streak of sand in the Bradford formation is saturated with oil and should be shot. This refers to wells that are used for oil and not for water, as it is the writer's opinion that wells that are drilled for water only should not be shot at all.

Large Cavity No Aid

The fact that a large opening is made in the sand does not indicate that a greater pressure is obtained.

No increase of pressure is obtained by having a large cavity in the sand.

Also the pressure of the column of water is but one of the factors, the main factor being, in my opinion, the capillary displacement that takes place owing to the fact that water has a lower viscosity and a greater surface tension than oil thereby naturally displacing the oil remaining in the pores, regardless of pressure or gravity.

My suggestion made to various operators, that another core be taken at some such a point where the sand is known to have been completely flooded and considered as strictly drowned territory, seems to have met with the approval of many to whom this subject has been referred and I hope this suggestion is taken up as it would make possible an answer to the question: How much oil remains in the sand after we consider it drowned out, or what portion of the sand is actually flooded out and what portion remains unaffected?

Some operators already have indicated their willingness to carry out the plan.

Record of Core

The complete record of core as taken follows:

Drilled with standard tools to a depth of 1,230 feet.

From 1,239 to 1,230.40—Limestone, gray, highly fossiliferous.

From 1,230.40 to 1,235.55—Shale, sparsely fossiliferous.

From 1,235.55 to 1,238.40—Lime and calcareous shale, highly fossilferous. calcareous shale, highly fossilferous.

From 1,238.40 to 1,239—Hard dark gray sand, no show of oil.

From 1,239.00 to 1,239.40—lime, gray, highly fossiferous.

From 1,239.40 to 1,239.45—Thin dark shale break.

From 1,239.45 to 1.240.00—Limey shale, fossilferous.

From 1,240.00 to 1,257.50—Shale break, the first in sand.

From 1,257.50 to 1,260.80—oil sand.

From 1,250.80 to 1,261.50—shale break.

From 1,261.50 to 1,268.64—oil sand.

From 1,268.64 to 1,268,989—shale break.

From 1,268.99 to 1,271.52—oil sand.

From 1,271.52 to 1,272.87—shale break.

From 1,272.87 to 1,275.52—oil sand.

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From 1,275.53 to 1,277.53—shale break.
From 1,277.53 to 1,277.98—oil sand.
From 1,277.98 to 1,278.83—shale break.
From 1,278.83 to 1,281.78—oil sand.
From 1,281.78 to 1,282.28—shale break.
From 1,282.28 to 1,283.18—oil sand. (From here down sand is much darker).
From 1,283.28 to 1,285.41—shale.
From 1,285.41 to 1,286.42—Oil sand.
From 1,286.41 to 1,287.59—shale.
From 1,287.59 to 1,288.04—Oil sand.
From 1,288.04 to 1,291.79—shale.
From 1,291.79 to 1,292.33—oil sand.
From 1,292.33 to 1,293.83—shale bottom of well.

The elevation of the mouth of the well is 1,608 feet above sealevel making the Bradford sand 366 feet above sealevel.

GOV. FUQUA TO NAME NEW COMMISSIONER

SHREVEPORT, La., Aug. 9.—Speculation is rife in Monroe and other towns adjacent to and affected by conditions in the Monroe gas field as to the successor of Dudley Berwick, Commissioner of Conservation. The office is one of appointment and it is rumored Governor Fuqua is contemplating the appointment of J. W. Everett, his private secretary. Others are of opinion that Acting Commissioner W. E. Payne is the most likely appointee. Either would be acceptable to the carbon interests, the conservation department and local business men.

An extended trip through the Monroe gas field was conducted recently by Acting Commissioner Payne to familiarize himself with actual working conditions so that when specific problems are presented to him in his office at New Orleans he may be prepared to handle them from practical knowledge.

Mr. Payne was accompanied through the field by H. W. Bell, supervisor of the minerals division of the department of conservation; Col. W. H. Holmes, of the game and fish division; Capt. R. P. Webb, local manager for the department; T. T. Webb, representative in the State Legislature; W. B. Clarke, representing the Zeigin-Clark interests; George G. Weeks, presiden of the Louisiana Gas Products Co.; R. H. Oliver, attorney for the Southern Carbon Co.; Dr. E. L. Bartley, representing the Standard Carbon Co.; G. E. Jordan, of the Monroe Gas Co., and Barney Oakland, field manager for the Ladel and Amalgamated interests.

The party visited the Southern Carbon Co.'s plants at Fowler and Fairbanks, where the largest gasoline absorption plant in the world is location, and arrived at Perryville just in time to see and hear the blowing in of a big gas well.

CALIFORNIA STORAGE NOW NEARING PEAK

LOS ANGELES, Cal., Aug. 9.—Evidence is accumulating that the peak of oil in storage in California should be reached within the next two or three months. Taking into consideration field, pipe line, refinery and terminal stocks there are at least 115,000,000 barrels of oil in storage in California. Because of the approaching peak, none of the large pipe line companies is anxious to build additional concrete or steel storage, and those companies which are contemplating the storing of additional quantities of oil for the next couple of months are actively leasing whatever concrete and steel storage space can be tied up. In view of the fact that concrete storage costs in the neighborhood of 25 cents per barrel of capacity and steel storage between 40 cents and 50 cents, there is obviously no incentive to construct additional facilities which may be used for only a very short time and then may never be used again.

ORDERS TANKERS IN GERMANY

Standard Oil interests have ordered 10 tankers in Germany, where the price is £4 a ton under English quotations, according to London reports.

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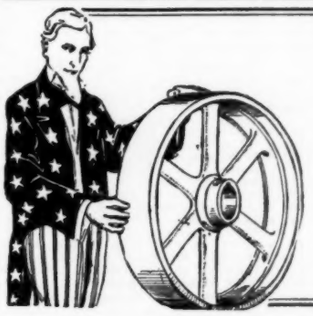

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Detailed Operations in Western Fields for Month of July

(Continued from Page 104)

16-21-13 Vann, Tidal Oil 5 ..... dry
9-21-13 Baker, Central Pet. et al 14.. 20

Wells completed 16
Production 3140
Dry 8
Gas 0
Gas production 0

OKMULGEE COUNTY

34-16-11 Ross, Paraffine Oil 5 35
5-15-11 Willis, Mountain Rose Oil.... 15
7-15-11 Marshall, Guardian Oil 6 .... dry
32-16-11 Gooden, Misner et al 3 40
35-15-14 Rentie, Michling & Berlin 12.. dry
32-14-14 Ashley, McFann & Knott 1-A. dry
3-13-11 Scott, Central National 1 .... dry
23-13-11 Murrell, W. Phillips & Gypsy 4 180
2-13-12 Lovett, King et al 6 ..... gas
22-13-12 McIntosh, Clark et al 9 ..... dry
6-13-15 Foster, Lambert O. & G. 3.... 10
7-11-12 Hawkins, Moffett & French 4. dry
15-11-13 Grayson, Pat Clark et al 1.... dry
22-16-12 Willis, Pulaski Oil 4 ..... dry
3-15-11 Grant, Clover Bros. 2 20
14-15-11 Richards, W. Phillips 7 5
17-15-11 Carolina, Cole & Castel 1-A.... 130
5-15-14 Bruner, Murphy & Tilly 1.... dry
15-14-12 Colbert, Joe Gardner et al 1.. 15
14-13-11 Thompson, W. S. McCray 3 ... abd
17-13-11 Lefford, Prairie O. & G. 1..... 720
25-13-11 Berry, Eastern Oil 2 300
2-13-12 Unallotted, Brock et al 1 .... gas
25-13-12 Smith, Frisco Oil 2 75
17-13-13 Gray, C. B. Bunty et al 3..... 75
10-12-12 Larney, E. R. Black 1-A ..... gas
25-12-13 Byrd, Kingwood Oil 2 125
3-15-11 Grayson, Enfisco Oil 2 5
22-13-14 Scott, Prairie O. & G. 10..... 5
10-11-13 Bruner, W. S. Zing et al 1.... gas

Wells completed 20
Production 1755
Dry 10
Gas 4
Gas production 22,500,000

OKFUSKEE-HUGHES-SEMINOLE-McINTOSH COUNTIES

36-12-10 Brook, C. L. McMahon 1 ..... gas
22-12-14 Smith, McInturf 2 ..... dry
11-11-11 Hopwood, F. Cusack et al 3-A 30
Hopwood, Enterprise Oil 1-A. dry
4- 9- 9 Alexander, Papoose Oil 4..... 10
10- 9- 9 Hill, Gypsy Oil 1 ..... dry
15-10- 8 P. Stidham, Gypsy Oil 3 2707
Z. Stidham, Gypsy Oil 3 3005
21-10- 8 Harjo, Tidal-Osage 2 2400
Harjo, Independent O. & G. 1. 400
18-10- 9 Carolina, Independent O. & G. 1 ..... dry
33-10- 9 P. Johnson, Mid-West & Gulf 1 gas
4- 9- 9 Alexander, Papoose Oil 7 2300
21- 9- 9 Bruner, Prairie O. & G. 1..... dry
4- 9-11 Baker, Tidal-Osage 2 100
29- 8- 8 Walker, Independent & Sinclair 3 83
33- 8- 8 B. Foster, Dixie Oil 3 ..... abd
L. B. Long, Dixie Oil 2-A.... 305
L. B. Long, E. P. Harwell 2.. 880
30-12-14 Griffin, Kingwood Oil 1 ..... gas
29-12-15 McNally, Clifton & Terrell 1.. dry
11-11-11 Smith, Indiana Pet. 13 30
35-11-11 Smith, Atlantic O. P. 1 60
15-10- 8 Z. Stidham, Gypsy Oil 2..... 700
16-10- 8 Proctor, Gilliland Oil et al 2..2409
21-10- 8 Harjo, Independent O. & G. 1.. 400
22-10- 8 King, McMan O. & G. 4 1524
28- 8- 8 Foster, Gypsy Oil 2 5
32-8- 8 Parker, Magnolia Pet. 3 16
Grayson, Independent & Sinclair 2 43
23- 7- 7 Colbina, R. H. Smith et al 1.. gas
6- 7- 8 Forney, J. Thurber 1 ..... abd
10-10- 8 Brown, Burke-Greis Oil 1 2700
15-10- 8 Bruner, Wilcox O. & G. 6..... 960
Alexander, Mid-Kansas O. & G. 2 600
Alexander, Mid-Kansas O. & G. 3 288
Willis, Gypsy Oil 1 100
16-10- 8 Baker, Superior Oil 2 2500
Bruner, Gypsy Oil 2 1290
Bruner, Gypsy Oil 4 960
21-10- 8 Harjo, Tidal-Osage Oil 5 3000
22-10- 8 Yarhola, Berry Pet. Co. 1....1420
4- 9- 9 Alexander, Berry Pet. 3 2200
Simon, Champlin & Winkler 1. abd

Wells completed 44
Production 33,425
Dry 9
Gas 4
Gas production 38,000,000

MUSKOGEE-WAGONER COUNTIES

19-14-16 Barnett, Probst & Morrison 1-A 3
21-18-16 Sam Tiger, Tawner et al 2..... abd
33-18-16 Marshall, Schulty et al 2..... abd
1-17-16 Unallotted, F. Hare et al 1.. 20
2-17-16 McIntosh, Sewell et al 2..... 35
McIntosh, J. E. Martin 2..... dry
6-17-16 Grayson, Chas. Ramstead et al 1..... 20
7-17-16 Haynie, Orr 1 ..... gas
11-17-16 Birney, Young et al 6..... 20
Unallotted, Dr. Carder 2..... 95
15-17-16 Berryhill, Whaleback et al 8.. 20
Allen, Atkins et al 1..... dry
Berryhill, Sewell et al 3..... 40
1-17-17 Taylor, Metzgae 3..... dry
10-17-17 Root, Hayes & Harris 1..... dry
17-15-17 Manuel, H. E. Williams et al 1-A ..... gas
9-14-18 Wiley, J. S. McCutcheon 4..... 20
21-18-16 Tiger, A. Williams et al 1.... dry
1-17-15 J. Vann, Carmichaels et al 1.. dry
2-17-16 McIntosh, Whaleback 1..... dry
13-17-16 Atkins, J. A. Swindler 2..... dry
14-17-16 Davis, Gillam et al 2..... dry
Partridge, G. B. Goble 1..... 50
21-17-16 Childers, Allen & Dowd 1.... 5
28-17-16 Childers, Furhman 1..... dry
13-17-17 Brady, Sun Ray Oil 2..... dry
21-17-17 Marshall, White Eagle 1..... 25
1-16-16 Marshall, McCot et al 1-A.... dry
34-16-17 Marshall, Hadley & Wickham 1 ..... dry
4-15-15 McDaniel, Hillside O. & G. 2.. 10
35-15-16 Johnson, Hutchinson et al 7.. 75
35-15-17 Jacobs, E. M. Swanson 3..... dry
18-15-18 Fields, E. C. Robinson 8..... dry
15-13-16 Tony, Oaks & Shepherd 1-A.. dry

Wells completed 34
Production 448
Dry 18
Gas 3
Gas production 6,500,000

CREEK COUNTY

8-15- 8 Wilson, Roxana Pet. 8..... 450
17-15- 8 Yarhola, Pure Oil 11..... 800
Roberts, Eastern Oil 3..... 950
10-16-11 Pickett, Wiser Oil 11..... 10
13-14- 8 Sewell, C. S. Tibbens 2..... 50
31-19- 9 Barnett, Selby Oil 1..... 100
24-17- 8 Harjo, Waite Phillips Co. 2... gas
17-18- 9 West, Holmes & Jarvis 2..... 175
32-17- 9 Marshall, Emery & Sons 1.... abd
5-16- 8 Roberts, F. & N. Oil 5..... 25
22-16- 8 Arysiee, Peters Oil 3..... 35
23-16- 8 Deere, Lorraine Pet. 12..... 100
Brondnaux, D. B. Mason 4..... 30
27-15-10 Harry, Cumberland Ref. 1.... 380
33-15-10 Gooden, W. J. Harmon et al 1 375
7-14- 7 Jack, Wood & Farren 2.....2100
Jack, W. Phillips 2.....2223
27-19- 9 Cherry, T. A. Johnson et al 1.. dry
30-18-10 Wills, Bob Bailey 1..... 800
21-17- 9 Whitnack, Carter Oil 2..... 20
31-17- 9 Roberts, Prairie O. & G. 3.... 50
35-17-10 Bucktrot, H. C. Wilson 2.... 40
17-17-11 Cooper, Ireland et al 1..... dry
5-16- 8 Pittman, Prairie O. & G. 8.... 700
23-16- 8 Deere, Lorraine Pet. 4..... dry
Deere, Lorraine Pet. 12..... 100
35-16- 8 Harjo, H. F. Wilcox O. & G. 9 1000
8-16-12 Maxwell, Riverland Oil 1-A.... 300
17-15- 8 Roberts, Eastern Oil 1..... 90
33-15-10 Post, Wilcox O. & G. 9..... dry
26-14- 8 Johnson, C. G. Tibbens 9..... 15
9-14-10 Tiger, Selby O. & G. 1..... abd
12-13- 8 Grayson, S. B. Grieves 1..... 50
5-16- 8 Pittman, Prairie O. & G. 7.... 550
6-16- 8 Wills, Olean Pet. 4..... 40
29-16- 8 Fixico, Atlantic O. P. 1..... 20
16-16- 9 Unallotted, O. R. Howard 2.. 750
25-15- 7 Richards, S. E. Crosbie et al 1 35
15-15- 8 Warnakee, Cosden O. & G. 1 4
5-14-10 Yarhola, Stubblefield et al.. abd
31-14-10 Barnett, Burke-Greis Oil..... 375
Scott, Independent O. & G. 3.. 350

Wells completed 43
Production 13,088
Dry 7
Gas 1
Gas production 8,000,000

PAWNEE COUNTY

27-21- 7 Morain, Daniels & Ebert 1... abd
31-21- 8 Koup, J. B. Grieves 1-A..... gas
18-20-10 Black, Shaffer O. & R. 1..... dry
1-20-5e Conely, Privett Drilling 1..... dry
9-20-6e Cowling, Magnolia Pet. 1..... 75
16-20- 6 School Land, Magnolia Pet. 4 110
School Land, Jim Glenn Oil 5 60
17-20- 7 Pettit, Johnson O. & R. 2..... 150
24-20- 8 Hennesy, Wallace et al 1-A.. 55
24-20- 8 Bowash, Tidal Oil 3..... 100

Wells completed 10
Production 550
Dry 3
Gas 1
Gas productio.n 1,500,000

PAYNE COUNTY

2-18- 5 Laughlin, Shaffer O. & R. 11.. 198

Wells completed 1
Production 198
Dry 0
Gas 0

KAY COUNTY

4-27- 5 Roxana Pet. 12..... 300
23-29-2w Guyler & Daniels 1, Chism... abd
17-28-1e Mooney, McCaskey & Wentz 3 40
16-27- 5 Riggs, Skelly Oil et al 8..... 50
34-25-1w Enicott, Pennok Oil 7-D.....2678
4-27- 5 Comar Oil 2 10
Pappan, Roxana, Pet. 9..... gas
34-25-1w Enicott, Pennok Oil 3-B..... 15
19-25-2e Primeau, Marland Ref. 2..... 25

Wells completed 9
Production 3118
Dry 1
Gas 1
Gas production 8,000,000

GARFIELD-NOBLE COUNTIES

2-24-1w Clark, Gypsy Oil 72..... 150
Clark, Gypsy Oil 73..... 125
Gaume, Comar Oil 12-B..... 50
31-21- 3 Christie, Colorado Oil 1..... dry
24-22-4w Belveal, Healdton O. & G. 20 20
25-22-4w Hay, Sinclair O. & G. 18..... 30
26-22-4w Hiem, Imo O. & G. 6..... 40
19-22-3w Crews, Crews Heirs 14..... 40
30-22-3w Windler, Sinclair O. & G. 9.... 10
L. Crews, Sinclair O. & G. 6.. 25
31-22-3w Morrison, Sinclair O. & G. 7.. 15
2-24-1w Blubaugh, Comar Oil 25-A..... 140
2-24-1w Blubaugh, Comar Oil 8..... 27
2-24-1w Carmichael, Comar Oil 4-W..2778
18-22-3w Schaffer, Sinclair O. & G. 8.. 25
19-22-3w Crews, Sinclair O. & G. 12.... 20

Wells completed 16
Production 3495
Dry 1
Gas 0

CARTER COUNTY

22-4s-2w Hefner, Carter Oil 17..... 100
Dillard, Skelly Oil 17..... 100
Dillard, Westheimer & Daube 8 ..... abd
5-3s-2w Cobb, Merrick et al 3..... 40
22-2s-3w Carpenter, Wirt Franklin 2.. gas
23-2s-3w Jones, D. C. Fitzgerald 1..... 240
Lahman, Magnolia Pet. 5..... 100
Jones, Skelly Oil 2..... gas
25-2s-3w Jefferson, Twin State Oil 5.. 100
20-5s-1e L. Baptiste, Amerada Pet. 5.. 55
M. Baptiste, Amerada Pet. 15 50
10-4s-2w Walker, Simpson-Fall Oil 2.... 300
21-4s-2w Dillard, Wolverine Oil 112.... 15
6-3s-2w Pouder, Acco Oil 1..... abd
23-2s-3w Cruce, Humble O. & R. 1..... 20
Jones, Skelly Oil 3..... 50
24-2s-2w W. Smith, Magnolia Pet. 2.... gas
31-2s-2w Burnett, Kirk O. & G. 6..... 110
34-5s-1e Butler, Amerada Pet. 2..... abd
15-4s-2w Woodruff, Magnolia Pet. 13... abd
16-4s-2w Kalish, Westheimer & Daube 17 100
5-3s-2w Apple, Wirt Franklin 1-A..... 80
14-2s-3w Lyles, E. P. Harwell 1..... dry
15-2s-3w Carpenter, Wildwood Oil 1.... dry
22-2s-3w Carpenter, Humble O. & R. 1.. 80
23-2s-3w Jones, Skelly Oil 3..... 25
Lahman, Magnolia Pet. 3..... dry
24-2s-3w Smith, Magnolia Pet. 7..... gas
25-2s-3w Jefferson, Twin State Oil 3.... 100
15-4s-2w Martin, Sure Oil 3..... 600
Martin, Sure Oil 7..... 15
16-4s-2w Shallenberger, Magnolia Pet. 8 abd
23-4s-2w Hefner, Carter Oil 14..... 55
Dillard, Wolverine Oil 83..... 110
24-2s-3w Smith, Magnolia Pet. 8..... 437
26-2s-3w Lowery, Magnolia Pet. 4..... 100
28-1s-3w Jennings, Humble O. & R. 1.. 425
34-1s-3w Parnell, Simpson & Fell Oil 1. 230

Wells completed 39
Production 3612
Dry 8
Gas 4
Gas production 89,000,000

STEPHENS-COTTON COUNTIES

23-1 -9w Fleming, Douthitt et al 1... gas
Brown, Texas-Waldman 4..... 15
24-1 -9w McFatridge, Gypsy Oil 1..... dry
29-1s-9w Harlin, Lone Star Gas 7..... 5
31-1s-5w Hassell, Pure Oil 3..... 5
31-1n-w Brymer, Smith-Law 3..... gas
18-2s-7w Bristow, Mid-Kansas O. & G. 2 dry
2-2s-5w Dillard, Magnolia Pet. 18 .. 8
25-2s-5w Stallings, Magnolia Pet. 1... dry
25-1s-5w Clark, Base Line Oil 4..... dry
19-1s-8w Worrell, Magnolia Pet. 1.... gas
22-1s-8w Worrell, Fisher & Brannan 2 15
26-1s-5w Fransley, Skelly Oil 22..... 4
35-1s-5w Steifel, Wykoff & Ross 13..... 20
30-1n-8w Maxey, Magnolia Pet. 2..... abd
30-2n-5w Colbert, O. C. Sparks et al 1. dry
31-4s-9w Klinglesmith, Knight & Hines 1 ..... abd
17-1s-8w Freeland, Ellis Drilling 2..... dry

Completions 18
Production 72
Dry 8
Gas 3
Gas Production 14,000,000

MISCELLANEOUS

Caddo County—
12-5 -9w Wagoner, Gorton Trust 3..... 25
Custer County—
15-15-20w Unknown, Twin Hill Oil 1... dry
Garvin County—
15-1n-3w Cowen, Magnolia Pet. 24..... gas
17-1n-3w Derdyn, Texas Co. 5 80
18-1n-3w Derdyn, Texas & Pacific C. & O. 1 35
10-1n-3w Gibson, Magnolia Pet. 4-B ... 40
3-1n-2w Pipejoy, Kennedy et al 1..... dry
3-1n-2w Pipejoy, Kennedy et al 1..... dry
31-1n-2w Prence, Carver Bros. 1..... abd
10-1n-3w Gibson, Magnolia Pet. 5..... 40
Grady County—
8-4n-5w Spencer, Gant Becker 1..... dry
Jackson County—
21-3- 22w Lone Perriman, Texas Guarantee 1 ..... dry
Johnson County—
6-5s-8e Overton, Haines Oil 1..... abd
Lincoln County—
11-14-6 Barber, Texas Co. 1 1000
Jackson, Wolverine Oil 2..... 880
13-14-2 Petty, J. A. Hull Co. 1.....1525
Townsite, Union Pet. & Supply 4 2160
Lewis, Amerada Pet. 2 1750
Amerada Pet. 5 1446
1-14-6 Welch, Amerada & Wrightsman 1 1342
Zoller, Roxana Pet. 2 1869
12-14-6 Bowell, J. W. Hull 5..... 800
2-13-6 Smulian, Wilcox O. & G. 1.. 70
2-14-5 Ely, Flynn & Morgan 1..... abd
1-14-6 Zoller, Roxana Pet. 5 861
12-14-6 Brace, Roxana Pet. 1 885
Love County—
27-6s-2e Draughn, Westheimer & Daube 2 ..... dry
Marshall County—
36-7s-5e Everett, Magnolia Pet. 1 ..... dry
Murray County—
11-1s-1e Rowe, Beard & Miller 1..... 940
Pittsburgh County—
13-7-12 Pratt, Paraffin Oil 1 ..... abd
Pontotoc County—
28-3n-4e Dougherty, Valerius et al 1.... dry
Marlow, Valerius et al 1..... dry
Roger Mills County—
1-16-21w Unknown, Mutual Oil 1..... dry

Completions 33
Production 15,748
Dry 14
Gas 2
Gas production 52,000,000

OSAGE COUNTY

Rigs

17-29- 6 Phillips Pet. 6.
20-29- 9 Winona Oil 3.
11-27- 5 F. Lyman, Carter, 1, 2, 5, 6. Phillips Pet. 1, 13.
13-27- 5 St. John, Carter 1, 2, 3,4. Bighorse, Carter Oil, 1, 2, 3, 4.
14-27- 5 Phillips Pet. 1, 2, 3, 4, 5, 9, 13.
25-27- 5 Phillips Pet. et al 8.
26-27- 5 Phillips Pet. 15, 7.
36-27- 5 Marland & Roxana 3.
20-27- 6 Phillips Pet. 5. Phillips Pet. 1.
4-26- 5 Tidal-Osage Oil Co. 10.
6-26- 6 Lorraine Pet. 16.
12-26- 5 Midland Oil 1.
28-26- 5 E. B. Lawson 7.
15-24- 8 Marland Oil et al 2.
24-24- 9 Tidal Osage Oil 13.
26-24- 9 Mariand Ref. 8.
35-23- 7 Gypsy Oil 10, 11, 16.
5-22- 8 Sinclair Osage Hominy 148.
20-22- 8 I. T. I. Oil 224.
29-22- 8 Marland Oil Co. 4.
24-22-10 Tidal Osage 39.
11-22-11 Peters et al 1.
20-22-11 L. Freedman 1.
6-21-11 C. W. Titus 8.
28-20-11 Gray Oil 4.

Wells Drilling

21-28- 7 Comar Oil 1.
36-28-10 Owen-Osage 293.
28-28-11 Owen-Osage 274.
3-27- 5 Gypsy Oil 3.
11-27- 5 P. Lyman, Carter 3, 4, 7. Phillips Pet. 11.
13-27- 5 Prairie Oil & Gas 8. Midland 10.
14-27- 5 Midland 7, 16. Cosden Oil & Gas 3, 11, 15, 9.
26-27- 5 Phillips Pet. 12, 8, 11, 12, 15. Skelly Oil 2, 3, 4. Mid-Kansas Oil & Gas 5, 6, 7.
35-27- 5 Skelly Oil 1, 2, 3, 4.
17-27- 6 Oliphant 2.
18-27- 6 Kewanee Oil & Gas 6, 11, 12, 13.
20-27- 6 Phillips Pet. 1, 2, 3, 4. Phillips Pet. 5, 6.
7-26- 6 Phillips Pet. 7.
9-26- 6 Johnson, Carter Oil 1.
12-26- 6 Morris, Carter Oil 12, 13, 14, 15, 16.
16-26- 6 Baker, Carter Oil 9, 10, 11.
17-26- 6 Cosden Oil & Gas 13, 14.
26-26- 8 Seaman et al 1.
28-25- 8 E. B. Lawson 8.
29-25- 8 Texas Co. 6.
33-25- 8 Marland Oil 2.
34-25- 8 Marland Oil 3.
35-25- 8 Marland Oil 3, 4.
31-25- 9 Devonian Oil 1.
31-25- 9 Test Log Oil 1.
6-25-11 F. M. Prince 1.
10-25-12 Beacon Oil 3.
12-24- 4 Douglass Oil 1.
23-24- 8 Tidal-Osage Oil 7.
10-24- 9 Marland Oil 1.
25-24- 9 I. T. I. Oil 1.
3-23- 8 P. G. McKean 2. Superior Oil 3.
12-23- 8 Twin State Oil 7.
20-23- 8 Marland Oil 8, 9-B, 12, 13, 14. Kay County Gas 1, 2. Red Bank Oil 1, 3, 4.
29-23- 8 Marland Oil 3.
19-23-10 Higgins et al 1.
20-23-10 Flesher Pet. et al 2.
14-22- 8 Mutual Oil 4.
29-22- 8 Thompson-Black et al 3.
14-22-10 Osage-Arrow 16.
33-22-10 Tidal-Osage 20.
2-21- 8 Barnsdall Oil 7.
9-21- 9 McKinney-Page et al 2.
13-21- 9 S. S. Home 81.
15-21-10 Devonian Oil 1.
23-21-10 Markham et al 9.
6-21-11 C. W. Titus 7.
9-21-12 J. C. Stine et al 5.
16-21-12 Tidal Oil Co. 6.
16-21-12 Donahue, Skelly Oil 6.
31-21-12 Barnsdall Oil 24.
34-21-12 J. R. Hadley 1.
6-20-10 H. G. Gwinnup 1.
12-20-10 S. S. Home 79.
1-20-11 Peer S. Lorraine 1.
21-20-11 S. S. Home 1.
8-20-12 Gillespie et al 23.
28-20-12 Mutual Oil 9.
29-20-12 Shaffer Oil & Ref. 1.

Wells Shut Down

12-27- 6 Phillips Pet. 13.
3-26- 6 Kay Co. Gas 1.
31-25- 7 Vickers 8, Higgins 1. Sterling et al 1.
4-25- 8 Zach Barnes Pet. 1.
10-25- 8 Henderson & Holden 4.
29-25- 8 Texas Co. 2.
35-25- 8 Mid-Kansas Oil & Gas 1.
30-24- 4 Devonian Oil 1.
36-24- 8 Foster & Davis 36.
22-24- 9 Foster et al 43.
26-24- 9 Tidal-Osage Oil Co. 6.
32-24- 9 Oliphant, Carter Oil 4.
3-23- 8 P. G. McKean 1. Superior Oil 4.
12-23- 8 Mid-Kansas 5.
13-23- 8 Twin-State Oil 6.
29-23- 8 Red Bank Oil 5.
2-23-10 Gypsy Oil 1.
4-23-10 Rew Pyramid Oil 1.
19-22- 8 Robinson et al 7.
15-22-10 Alexander 1.
34-22-10 Tidal-Osage 38.
18-22-11 L. Freedman 7.
19-22-11 Riverland Oil 5.
11-21- 9 Devonian Oil 1.
23-21-10 Titus et al 3.
17-21-11 Brenne et al 2.

Rigs, 37; wells drilling, 145; total, 182.

TULSA COUNTY

Rigs

18-19-10 Tiger, Okla. Prod. & Ref. 4.
22-19-10 Ragen, Jones & Burton 1.
4-19-12 Partridge, Shaffer Oil & Ref. 8.
5-19-12 Grayson, Echo Oil 4.
Townsite, H. C. Wilson 1.
Partridge, Shaffer Oil & Ref. 1-A.
6-19-12 Bruner, Thompson & Black 4.
8-19-12 Townsite, Caldwell & Sons 1.
Townsite, West et al 1.
14-19-13 Harrison, J. H. Huff et al 1.
1-18-12 Edwards, West et al 1.
8-18-13 Thomas, Sparks et al 1.
3-16-12 Whetstone, S. W. Anthony 2.

Wells Drilling

1-19-10 Gooden, Swoopeland et al 2.
2-19-10 Gray, W. W. Harter 1.
7-19-10 Burnett, Eastern Oil 1.
26-19-11 Johnson, Superior Oil 3.
35-19-11 Incho, Wood et al 1-A.
4-19-12 Partridge, Shaffer Oil & Ref. 6, 7.
Childers, Graham Bros. 1-A.
Childers, Enfisco Oil 1.
Partridge, A. R. Simmons et al 2.
5-19-12 Grayson, Echo Oil 2, 5, 6.
6-19-12 Bruner, C. Page 3.
7-19-12 Berryhill, C. Page 2, 5.
Berryhill, Thompson & Black 2.
8-19-12 Yargee, Morgan & Hancock 1, 2.
Townsite, Caldwell & Sons 1, 2.
Townsite, Crosby & Myers 1.
Townsite, Choctaw Drilling 1.
Townsite, Shreve et al 1.
Townsite, P. Short & Morrison.
Townsite, G. N. Wright et al 1.
Townsite, Stein et al 1.
Townsite, Lionberger & Matthews 1, 2.
Townsite, McDonald et al 1.
Townsite, Henry & Avery 1.
Hartman & Williams 1.

Townsite, Hughes & Worley 1.
Townsite, Calvin & Belt 1.
Townsite, Allison et al 1.
Yargee, Caldwell & Sons 1.
16-19-12 Colbert, Crescent Oil 1.
18-19-12 Grayson, C. Page 2.
28-19-12 Yargee, Pennok Oil 7.
29-19-12 Brock Drilling 1.
30-19-12 Roberts, Eppler et al 1-A.
30-19-12 Bodry, Nowata Oil & Gas 2.
5-18-13 Fields, P. Short et al 1-A.
16-18-13 Rentie, Pouder & Pomeroy 4.
5-16-13 Bertholf, Thompson & Black 2.
Harty, Thompson & Black 1.

Wells Shut Down

20-19-12 Berry, Thoronton et al 1-A.
13-18-12 Donaldson, Associated Prod. & Ref. 1.
30-17-14 Deprest, McCullough 1.
3-16-12 Whetstone, Webber & Taylor 5.
Rigs, 13; wells drilling, 50; total, 63.

OKMULGEE COUNTY

Rigs

25-15-12 Stanley, Okla. Nat. 2.
36-16-13 Ockey, Newblock et al 1-A.
9-15-11 Strip, Indiahoma Ref. 1-A.
22-15-11 Hill, Cattlett & Davis 1.
5-16-12 Bell, Taylor et al 1-A.
24-16-12 Hogan, Savoy Oil 1.
16-15-14 Arch, Payne et al 2.
29-14-13 Robinson, W. Phillips & Newman 1.
11-14-13 Snakeys, J. M. Kessler et al 3.
21-14-14 Morris, Roxeline Oil 5.
22-14-14 Shalel, Kewanee Oil & Gas 9.
28-14-14 Andy, Stein et al 4.
6-13-11 Unallotted, J. J. Rebold 1.
16-13-11 Dice, Josey Oil 1.
23-13-11 Rowsey, Georgian Pet. 3.
23-13-11 Scott, Detter et al 1.
23-13-16 Thomas, Brook et al 9.
4-12-12 Tiger, Calvin et al 1.
31-12-12 Rentis, Dr. Thomas et al 9.
34-12-12 Grayson, O. F. Dickerson 1.

Wells Drilling

23-16-11 Skeeter, Meridian Oil 1.
27-16-12 Coleman, Independent Oil & Gas 8.
24-16-12 Vare, Sheldon 1.
3-16-11 Grayson, Jackson & Wise 3.
4-15-11 Lewis, D. D. Michelson 1.
11-15-11 Cooper, Beggs Oil & Gas 11.
Adams, Cosden Oil & Gas 5.
14-16-11 Grayson, Sheridan Oil 3.
Grayson, Transcontinental 1.
16-15-11 Johnson, W. Phillips 1.
17-15-11 Carolina, Shaffer Oil & Ref. 1.
18-15-12 Cousin, Farris & Potter 1.
36-15-13 Sampson, Southwestern Oil Co. 6.
16-16-14 Arch, Payne et al 1.
21-15-14 Osborne, Papoose & Swindler 21.
16-14-11 Lewisford, Clairen Oil 1.
31-14-11 Tiger, W. Whittman et al 1.
33-14-11 Unallotted, Preston Oil 2.
25-14-12 Smith, McFarland et al 5.
35-14-12 White, Barbara Oil 2.
28-14-13 Alexander, Baker et al 1.
2-14-14 Starr, Invader Oil 4.
32-14-14 Rentie, W. A. Settle et al 3.
9-14-15 Sells, Stein et al 8.
14-13-11 Montgomery Twin State Oil 2.
Johnson, Zahnizer Oil 3.
26-13-11 Marrell, A. B. Ice 2.
25-13-12 Smith, Frisco Oil 2.
33-13-12 Morton, Keaton & Gold 1.
13-13-14 Barnett, Iron Mountain Oil 6.
Thornsberry, Iron Mountain Oil 6.
15-13-14 Scott, Utah Oil 12.
18-13-14 Scott, Tidal Oil 1.
22-13-14 Fos, Curtis & Alsen 5.
23-13-14 Scott, Lundy Pet. 10.
24-13-14 Stoke, Kingwood Oil 1.
Thornsberry, Iron Mountain 6.
26-13-14 Ross, A. Sheldon Rebold Co. 6.
7-13-15 Freeman, E. J. Lambert 5.
16-13-15 Lovett, Helena Oil & Gas 1.
6-12-12 Grayson, Southern States 1.
Mitchell, Gladys Belle, Indiana 4.
7-12-12 Turner, G. D. Morton 1.
12-12-12 Davis, Beams & Wilder.
27-12-12 Henry, Vandeweider 1.
27-12-13 Grayson, W. C. Newman, 1-A.
20-12-13 Henry, Southern States Oil 1.
25-12-13 Roberson, Black Pet. 1.
36-12-13 Bruner, Pulaski Oil Co. 6.
5-11-12 Hawkins, Moffett & Slick 1-A.

Wells Shut Down

32-16-12 Clayton, W. R. Smith, et al 1.
34-16-12 Burnett, Southern States Oil 1.
25-16-14 Roberts, White Star Oil 1.
12-15-11 Stephen, Pollyanna Oil 6.
14-15-11 Grayson, Sheridan Oil & Gas 4.
Richards, W. Phillips 9.
14-15-12 Sheppard, Frazier et al 1.
26-15-13 Sugar, Vollantie et al 1.
28-15-13 Brown, Shelton & Bassett 2.
9-15-14 Corbray, H. W. Lampton 1-A.
19-15-14 Harrison, W. O. Schrock 1-A.
3-14-13 Leader, Max Moore 1.
17-14-13 Berryhill, L. Neal et al 1.
19-14-13 Berryhill, Kessler et al 2.
16-14-14 Colbert, Okla. Prod. & Ref. 5.
32-14-14 Ashlel, Jordan & Ashley 2.
29-14-15 Carter, Bohnert et al 2.
32-14-16 Carter, Bandy et al 2.
33-13-11 Morgan, Gladys Belle Oil 3.
32-13-11 Thomas, Denver Prod. & Ref. 4.
22-13-12 Atkins, J. H. Rebold 1.
1-12-12 Monday, Parshall Oil & Gas 1.
4-11-12 Hawkins, Henrietta Oil & Gas 5.
18-11-12 Fisher, Phillips Pet. & Kimbley 1.
29-11-12 Vorbray, Mildred et al 1.
36-11-12 King, J. S. Rebold 1.
36-11-13 Thompson, Lennor Oil 1.
Rigs, 20; wells drilling, 80; total, 100.

OKFUSKEE, HUGHES, SEMINOLE McINTOSH

Rigs

1-13- 7 Simmons, Burke-Greis Oil 1.
4-12- 8 Saryokiche, Link Oil 2.
5-13- 9 Fixico, Atlantic Oil Prod. 1.
17-12- 7 Hennehuckee, Kiskaddon et al 2.
26-11- 7 Kidd, C. J. Wrightsman et al 1.
27-11- 8 Amos, Burke-Greis Oil 1-A.
3-11-11 Hawkins, Tidal Oil et al 2.
34-11-11 Barnett, Oklana Oil 2-A.
35-11-11 Smith, Atlantic Oil Prod. 2.
31-10- 7 Wrightsman & Gardner Pet. 1.
9-10- 8 Bruner, Pure Oil 4.
10-10- 8 Brown, Burke-Greis Oil 3.
16-10- 8 Willis, Cosden Oil & Gas 4.
Tiger, Cosden Oil & Gas 2.
Yarhola, Cosden Oil & Gas 4, 5.
15-10- 8 Bruner, Wilcox Oil & Gas 3, 8.
Willis, Gypsy Oil 2, 4.
10-10- 8 Baker, Superior Oil 2, 3.
Roberts, Carte Oil 1, 2.
Proctor, Gilliland Oil Co. 6.
17-10- 8 Bruner, Cosden Oil & Gas 1.
33-10- 8 King, Cosden Oil & Gas 2.
T. Yarhola, Cosden Oil & Gas 1, 2
L. Yarhola, Cosden Oil & Gas 1, 2
L. Yarhola, Berry Pet. 2, 3, 4.
Yale, Carter Oil 1.
33-10- 9 Barnett, Mid-West & Gulf 1.
7- 9- 8 Unallotted, Holm & Jarvis 1.
13- 9- 8 Poldo, Turman Oil 1.
3- 9- 0 Alexander, Cosden Oil & Gas 2.
3- 9- 9 Davis, Kingwood Oil Co. 5.
4- 9- 9 Carter, Gibson & Zahniser 2.
17- 9- 9 Brown, Marsay Oil 7.
18- 9- 9 Brown, Arkansas Fuel 2.
Brown, Cosden Oil & Gas 1.
Brown, Magnolia Pet. 3, 4.
20- 9- 9 Simon, Minnehoma Oil 1.
23- 9- 9 Bruner, C. J. Wrightsman 1.
9- 9-11 Bruner, Mid-Kansas Oil & Gas 3.
29- 8- 8 Foster, Dixie Oil 5.
30- 8- 8 Joshua, Magnolia Pet. 1.
31- 8- 8 Bowlegs, Rumsey et al 1.
Willed, Sykes & Boggs Pet. 2.
32- 8- 8 Perryman, Shaffer Oil & Ref. 1.
Parks, Dixie Oil 2.
33- 8- 8 Foster, Independent & Sinclair & Diamond 1.
23- 7- 7 Davis, Sinclair Oil & Gas 1.
4- 7- 8 Long, Prod. & Ref. 2.

Wells Drilling

4-13- 8 Saryokiche, Iron Mountain 2.
21-13- 9 Callahan, Lippi et al 1.
14-12- 8 Billy, Western States 1.
22-12- 9 Yarhola, Sinclair Oil & Gas 1.
25-12- 9 Callahan, C. W. Wangerine 1.
36-12- 9 Pittman, Henry Oil 1.
17-12-10 Harrison, Blakely & Atlantic Pet. 1.
23-12-10 Harjo, Bingman Bros. & Blakely 1.
Harjo, Blakely 1.
28-12-10 Hivens, Independent Oil & Gas 2.
Johnson, Blakely et al 1.
Hivens, Burke-Greis Oil 1.
36-12-10 Gray Carter, Blakely & Atlantic 1.
Fischer, Atlantic 1.
12-12-11 Buckley, Henry Oil & Avers.
30-12-11 Skelton, Shaffer Oil & Ref. 1.
33-12-11 McCoy, Josey Oil 3, 4.
Carolina, Independent Oil & Gas 1.
Jacobs, Independent Oil & Gas 1.
Fields, Josey Oil 1.
34-12-11 Holmes, Anglo-Texas 1.
35-12-11 Robinson, Aztec Trives 1.
25-11- 9 Hill, Robinson et al 1.
17-11-10 Dunson, E. R. Black 8, Turnan 1.
3-11-11 Fields, Cosden Oil & Gas 1-A.
Myers, Webster et al 4.
25-11-11 Barnett, Gypsy Oil 3.
Barnett, Lyons Pet. 2.
17-11-14 Cumberlage, Wooster Oil 2.
29-11-14 McIntosh, Grundish & Allison 1.
2-11-17 Unknown, J. E. Wieble 1.
33-10- 6 Gayson, W. B. Rennells 1.
4-10- 8 Fixico, Laurel Oil & Gas 1.
Dunn, Central National 1.
9-10- 8 Bruner, Pure Oil 1, 2, 3.
Bruner, Sinclair & Transcontinental 1.
Bruner, Gardner & Carter 1, 2.
10-10- 8 Little, Shaffer Oil & Ref. 1.
Brown, Burke-Greis 2.
Brown, Carter Oil 1.
Little, Carter Oil 1.
Berryman, Roxana Pet. 1.
Berryhill, Roxana Pet. 1.
Brown, Roxana Pet. 1, 3, 4.
Little, McMan Oil & Gas 1.
15-10- 8 Willis, Cosden Oil & Gas 3.
Tiger, W. Phillips 1.
Tiger, Roxana Pet. 1.
Tiger, Lawrence Gas 1.
Yarhola, Cosden Oil & Gas 1, 2.
Bruner, Wilcox Oil & Gas 5, 7.
O'Neil, Carter Oil, 1, 2.
P. Stidham, Gypsy Oil 3.
Z. Stidham, Gypsy Oil 4.
Alexander Mid-Kansas Oil & Gas 4.
Willis, Gypsy Oil 2.
16-10- 8 Bruner, Amerada Pet. 2, 3, 4, 5, 6, 7.
Proctor, W. Phillips 1.
Baker, McMan Oil & Gas 1.
Proctor, Hoffer Oil 2.
Hale Brune, Gypsy Oil 1, 2, 3, 5, 6.
Hall, Carter Oil 2, 3, 4.
Proctor, Gilliland 1, 3, 4, 5.
21-10- 8 Harjo, Tidal-Osage 3, 4, 6.
Harjo, Independent Oil & Gas Co 2.
22-10- 8 King, Cosden Oil & Gas 1.
King, McMan Oil & Gas 3.
L. Yarhola, Carter Oil 1, 2.
W. Yarhola, Shaffer Oil & Ref. 3
4. 5, 6, 7.
Harjo, Holm 8, Jarvis 3.
28-10-11 Reed, Fisher & Umbum.
35-10-12 McQueen, Carter Oil 1.
3- 9- 9 Davis, Kingwood Oil 4.
4- 9- 9 Alexander, Berry Petroleum 4.
Mary Carter, Skelly Oil 1.
Alexander, Papoose Oil 5, 6, 8, 9, 10.
Carter, Gibson & Zahniser 1.
Tiger, Foster Investment Co. 1, 2.
Tiger, Transcontinental Oil 1, 2, 3, 4, 5.
Tiger, J. B. Foster 2.
Joe Simson, Champlin & Winkler 2.
5- 9- 9 Willis, Sinclair Oil & Gas 1.
8- 9- 9 Brown, White Eagle Oil & Ref. 1.
17- 9- 9 Brown, Gilcrease Oil 3.
Brown, Roxana Petroleum 1, 2.
Wilcox Oil & Gas 1, 3.
Brown, Margay Oil 1, 2, 5, 6.
18- 9- 9 Brown, Arkansas Fuel 3.
Brown, Glayds Belle Oil & Gas 1.
Magnolia Petroleum 2.
20- 9- 9 Simon, Gilcrease Oil 2.
22- 9- 9 Money, Josey Oil 1.
4- 9-11 Perter, Magnolia Petroleum 2.
9- 9-11 Holt, Tidal-Osage 2.
9- 9-11 Baker, Mid-Kansas Oil 1.
28- 8- 7 Rosanna, Magnolia Pet. 1.
12- 8- 8 Culler, Roxana Pet. 1.
29- 8- 8 Walker, Homa-Okla Oil 2, 3.
Walker, Dixie Oil 3, 4.
Joseph, Amerada Pet. 2, 3.
Walker, Magnolia Pet. 1.
Harrison, Magnolia Pet. 1.
31- 8- 8 Willed, Sykes & Boggs Pet 1.
32- 8- 8 Long, Dixie Oil 2-B, 3-A.
Lena, Magnolia Pet. 1.
32- 8- 8 Long, Dixie Oil 3-A.
Long, Lewis & Clark 2, 3.
Foster, Independent Oil & Gas 3.
Long, Dixie Oil 2-B.
18- 8-10 Irving, Dixie Oil 1-A.
13- 7- 7 Dennis, W. R. Ramsey 1.
22- 7- 7 Davis, Transcontinental Oil 1.
14- 7- 8 Jacobs, Prod. & Ref. 1.
5- 7- 9 Miller, Fuhram Pet. 1.
12- 7- 9 Hawkins, Kingwood Pet. 1.
26- 6- 6 Mingo, T. B. Slick 1.
33- 6- 6 Charty, Harvey & Maxwell 1.
18- 6- 7 Sanny, T. B. Slick et al 1.
20- 6- 7 Dindy, McDougal et al 1.
6- 6- 8 Reed, Garland Oil 1.
13- 6-11 Arn, Middle States Pet. 1.
12- 5- 9 Unknown, Douglas Oil 1.

Wells Shut Down

8-12-10 Yarhola, Blakely et al 1.
24-12-10 Fisher, W. R. Snyder 1.
25-12-10 Berryhill, Atlantic Oil Prod. & Blakely 1.
3-12-11 Grayson, Parshall Oil & Gas 2.
33-12-11 McCoy, Josey Oil 1.
Grayson, Anglo-Texas.
20-12-14 Tucker, Casper et al 1.
3-12-15 Bray, Beggs Oil & Gas 2.
27-11-11 Harjo, H. F. Clark et al 1.
30-11-11 Holmes, Moffett et al 4.
35-11-11 Jackson, Burns et al 2.
14-10- 7 Keys, R. H. Killebrew 1.
10-10- 8 Brown, Roxana Pet. 2.
16-10- 8 Proctor, Hoffer Oil 3, 4.
21-10- 8 Harjo, Tidal-Osage 7.
35-10- 8 Arfulka, E. W. Wedell et al 1.
1-10- 9 Wind, Skelly & Cosden 1.
12-10- 9 Cully, Kemp & Jennings 2.
35-10- 9 Sand, T. B. Slick 1.
11-10-11 Fife, Wrightsman 1.
15-10-11 Jo-Bo-Fay-Ny, Tobias et al 1.
13- 9- 7 Williams, Independent Oil & Gas 1.
3- 9- 9 Grayson, Gibson & Zahniser 1.
Grayson, T. B. Slick 1.
4- 9- 9 Alexander, Berry Pet. 2.
9- 9- 9 Hill, Papoose Oil 3.
15- 9- 9 Davis, Turman Oil 1.
17- 8- 9 Brown, Gilcrease Oil 2.
Brown, Wilcox Oil & Gas 2.
8- 9-12 Smith, Flesher Pet. 1.
10- 8- 7 Davis, Ossie Oil 1.
19- 8- 8 Wewoka Townsite, Ramsey 1.
21- 8- 8 Bowlegs, Magnolia Pet. 1.
32- 8- 8 Long, Dixie Oil 1-B.
Long, Independent & Atlantic 2.
Foster, Dixie Oil 1-A.
5- 7- 8 Foster, W. J. Thurber 1.
6- 7- 8 Dindy, W. R. Ramsay 1.
7- 7- 8 Unknown, Cosden Oil & Gas 1.
14- 6- 7 Carolina, Lind Oil 1.
4- 5-11 McLain, Skelly Oil 1.
Rigs, 55; wells drilling, 206; total, 261.

MUSKOGEE-WAGONER COUNTIES

22-18-16 Stanford, F. D. Carver et al 1.
29-18-17 Trent, D. J. Marshall 1.
2-17-16 McIntosh, G. B. Globe 1.
2-17-16 McIntosh, Omar Oil Co. 1.
11-17-16 Unallotted, Sewell et al 3.
13-17-16 Atkins, A. Castleman 1.
29-17-17 S. Lewis, W. T. Wright 1.
9-16-16 Crossley, H. E. Jones 1.
24-16-16 Marshall, W. N. Loos 1.
12-16-17 Marshall, Peer Oil 1.
20-16-17 Marshall, Harris Hayes Oil.
12-15-15 Lewis, J. Summers 1.
16-13-16 Collins, J. A. Sheppard 5.
20-13-18 Berryhill, H. L. Holly 1.

Wells Drilling

11-17-16 Birney, Young et al 7.
15-17-16 Berryhill, Whaleback et al 9, 10.
Allen, Jackson & Scully 2.
Verner, Atkins et al 4.
25-17-16 White, Larsarsky et al 1.
1-17-17 Taylor, Metzgar 4.
15-17-17 Samuels, Hay & Harris 1.
30-17-17 Wilson, J. M. Gillette et al 1.
33-17-17 Smith, A. P. Conard 1.
1-16-16 Lumnan, W. D. McCoy 1.
2-16-16 Perryman, G. B. Ice 2.
17-15-17 Manuel, H. E. Williams et al 2.
34-14-15 Durant, Henson et al 1.
28-14-17 Dean, J. M. Foltz 3.
11-14-18 Huckaby, Wachot et al 2.
6-14-19 Crittenden, N. D. Wells 2.

Wells Shut Down

3-18-16 Bock, E. L. Halsel 1.
26-18-16 Fulatka, Hanson 1.
29-18-17 Murrel, D. J. Marshall 1.
12-17-15 John Bros., A. Tillman et al 1-A.
5-17-16 Grayson, Deaner & King 1.
14-17-16 Adkins, Dowd et al 2.
15-17-16 Vemer, Dr. Corder 5.
Allen, Alf. Tillman 1.
23-17-16 Childers, Shaw et al 1-A.
2-17-17 Washington, H. C. Howard 1.
9-17-17 Harrison, A. A. Landers 1.
14-16-14 Franklin, McBrayer 1.
17-16-16 Sugar, R. C. Loftwich 1.
27-17-15 Charles, Turin Oil 4.
7-15-16 Smith, Straughn et al 2-A.
25-15-16 Perryman, Curridan 1.
28-15-16 Conrad, Jack Summers 2.
32-15-18 Swine, J. L. Jolly 4.
22-15-19 Rogers, E. C. Lentz 1.
29-14-16 Brown, Valentine et al 1-A.
30-14-16 Smith, Vogler & Lightner 1.
35-14-16 Buster, J. A. Dewitt 1.
18-14-17 James, W. A. Peterson 2.
9-14-19 Campton, J. W. Hale 1.
13-13-15 McGilbray, McCutcheon 2.
6-13-16 Callahan, McCutcheon 2.
36-13-17 Annett, Douglas & Heller 1.
Rigs, 14; wells drilling, 45; total, 59.

CREEK COUNTY

Rigs

12-19- 8 Grayson, J. B. Grieves 2.
14-19- 8 Lewis, Kiskaddon 2.
18-18- 9 Jones, Eva Bell 1.
30-18-10 Smith, Sapulpa Fuel 1.
32-18-11 Drew, Gross et al 6.
14-17- 8 Johnson, Atlantic Oil Prod. 1.
32-17- 8 Washington, Savoy Oil & Page 2.
6-16- 9 Barnett, Texas & Pacific 1.
9-16- 9 Bethel, Gypsy Oil 1.
16-16- 9 McDermott, Carter Oil 4.
36-16-10 Bemore, Phillips Pet. 3.
35-16-10 Froe, Hartman & Williams 3.
12-16-11 McGilbray, Shaffer Oil & Ref. 1.
8-16-12 Maxwell, Riverland Oil 3, 4.
Townsite, Suppes et al 1.
25-15- 7 Stewart, Prairie Oil & Gas 1.
17-15- 8 Wilson, Roxana Pet. 11.
Yarhola, Pure Oil 15.
Rogers, Eastern Oil 5.
20-15- 8 Wasson, Skelly Oil 1-A.
26-15- 8 Marchubby, H. U. Bartlett 1.
29-15- 9 Colbert, Pure Oil 1.
1-15-10 Simms, Barbara Oil.
Ashbury, H. C. Wilson 1.
27-15-10 Harry, The Texas Co. 1.
33-15-10 Post, H. F. Wilcox 7.
13-14- 8 Bearhead, F. R. Billingslea 1.
26-14- 8 Johnson, C. C. Tibbens 16.
29-14- 9 McIntosh, Cosden Oil & Gas 1.
31-14-10 Barnett, Independent Oil & Gas 2.
Scott, Independent Oil & Gas 2.

Wells Drilling

13-19- 8 Unallotted, Lassen Bros. 1.
Ross, Shaffer Oil & Ref. 1.
23-19- 8 Harman, F. O. Howarth 1.
15-19- 9 Postoak, Shaffer Oil & Ref. 1.
7-18- 9 Barnett, Atlantic Oil Prod. 1.
8-18- 9 Samuel, The Texas Co. 2.
10-18-10 Casan, Skelly Oil 1.
29-18-10 Henry, H. U. Bartlett 2.
21-17- 8 Stidham, Transcontinental 1-A.
23-17- 8 Johnson, Savoy Oil 2.
Grayson, W. Phillips 3.
24-17- 8 Fife, Davis Bros. 1-S.
28-17- 8 Barring, Okla. Prod. & Ref. 1.
32-17- 8 Washington, Okla. Prod. & Ref. 2.
Washington, Olean Pet. 1, 5.
Artusee, Sartian Bros. 2.
18-17- 9 Winn, Bu-Vi-Bar Pet. 1.
10-17-10 Backer, Bell Oil 1.
3-17-11 Sapulpa, Smith et al 1-A.
31-17-11 Grayson, Hart & O'Laughlin 1.
5-16- 8 Pittman, Prairie Oil & Gas 1.
6-16- 8 Willis, Olean Pet. 2.
21-16- 8 Williams, H. C. Wilson 1.
22-16- 8 Wilson, Cortes Oil 5.
Knoll, Laurel Oil & Gas 6.
26-15- 8 Buckner, Roland Oil 1.
4-16- 9 Renfro, Cameron et al 1.
9-16- 9 Childers, Jomae Oil 5.
16-16- 9 Sango, Tidal Oil 4.
16-16- 9 Pike, Frank Moore 1.
53-16- 9 Homer, W. R. Brown 7.
9-16-10 Ralston, Devonian Oil 4.
36-16-10 Harrison, Independent Oil & Gas 1.
10-16-11 Behen, Grosby 13.
8-16-12 Maxwell, Riverland Oil 2-A.
10-16-12 White, Sheridan Oil 2-A.
26-15- 8 Narchubby, Bu-Vi-Bar Pet. 1.
2-15- 8 Catt, Carter Oil 1.
8-15- 8 Wilson, Gypsy Oil 3.
Wilson, Prod. & Ref. 1.
12-15- 8 Wilson, Gypsy Oil 1.
16-15- 8 Fish, Eastern Oil 2.
Fish, Gypsy Oil 1.
17-15- 8 Yarhola, Pure Oil 12, 13, 14.
Rogers, Eastern Oil 4.
29-15- 8 Pelah, Mid-Kansas Oil & Gas 1.
35-15- 8 Hill, Tibbons 2.
4-15- 9 Wisener, Phillips Pet. 4.
Tiger, Phillips Pet. 3.
9-15- 9 Jefferson, Purdy & Roland Oil 1.
17-15- 9 Wolf, Atlantic Oil Prod. 1.
21-15- 9 Davis, Mount & Clay.
29-15- 9 Colbert, Irish Oil 1.
30-15- 9 Fields, E. R. Billingslea 1-A.
9-15-10 Sewell, Kawfield 3.
26-15-10 Adams, Plymouth Oil .
27-15-10 Adams, Prairie Oil & Gas 2.
3-14- 7 Deere, Prairie Oil & Gas 1.
6-14- 7 Coyarkah, Transcontinental 1.
Coyarkah, Gowland & Tucker 1.
Coyarkah, Roxana Pet. 2, 3.
7-14- 7 Lewis, Amerada 6, 7, 9, 10, 11.
Jack, Wood & Farren 1, 3, 4.
Jack, W. Phillips 1, 3, 4.
Lewis, Roxana Pet. 2.
Jack, Roxana Pet. 1, 2.
Jack, Atlantic Oil Prod. 1, 2.
16-14- 7 Clanton, Stebbins Oil & Gas 1.
2-14- 8 Davy, White Oil 1.
12-14- 8 Bruner, C. G. Tibbens 1.
17-14- 8 Shaffer Oil & Ref 1.
30-14- 8 Kernal, Prairie Oil & Gas 5.
36-14- 8 Beaver, Independent Oil & Gas 1.
18-14- 9 Bartlett, C. G. Tibbens 1.
23-14- 9 Wolf, Geo. W. Davis 1.
Baker, F. R. Billingslea et al 1.
4-14-10 Harry, Tom Kelly 1.
8-14-10 Tiger, Daniels & Jenkins 1, 2.
17-14-10 Johnson, Hall & Donnelly 1.
21-14-10 Scott, E. L. Kistler 1.
32-14-10 Mitchell, Cosden Oil & Gas 1.
34-14-10 Flannigan, Cosden Oil & Gas Co. 1.

Wells Shut Down

9-19- 8 Vincent, T. E. Mann 1.
26-19- 8 Foster, Kiskaddon 1.
15-19- 9 Morgan, Mattox 3.
17-19- 9 Murrell, Mid-West & Gulf 1.
30-19- 9 Jefferson, Bailey et al 2.
17-18- 9 King, Bartlett et al 4.
29-18- 9 Scales, Peters Oil & McClung.
32-17- 8 Washington, Savoy Oil & Page 1.
6-17- 9 Johnson, Malcona Oil 10.
13-17-11 McIntosh, A. Sheldon 1-A.
32-17-11 Fulson, Okla. Nat. 1.
4-16- 7 Barnett, Gypsy Oil 3.
22-16- 8 Wilson, Cortes Oil 6.
Knoll, Laurell Oil & Gas 7.
Cove, Gypsy Oil Co. 2.
29-16- 8 Hawkins, Lynch et al 1.
9-16- 9 Childers, Jomac Oil 3, 4.
Self, Carraher 1.
16-16- 9 McNac, Nowata Oil & Ref. 2.
Unallotted, O. R. Howard 3.
34-16- 9 Brady, Transcontinental Oil 1.
34-16-10 Perkins, Cook & Wright 3.
1-16-11 Harris, Wilcox & Oswalt 2.
2-15- 8 Miles, H. F. Wilcox 6.
17-15- 8 Arnett, Skelly Oil 1.
5-15- 9 Buckner, The Texas Co. 1.
17-15-10 Slick Townsite, The Texas Co. 3
7-14- 8 Lewis, Roxana Pet. 1.
11-14- 8 McDaniel, Skelly et al 2.
22-14- 9 Mayes, C. W. West et al 1.
24-14- 9 Penn, Phillips Pet. 1.
Rigs, 32; wells drilling, 129; total, 161.

PAWNEE COUNTY

Rigs

26-22- 5 Crow, Turman Oil 1.
4-22- 3 Diamond, Watchorn Oil & Gas 5.
10-22- 6 Towner, J. H. White et al 1.
26-21- 4 Schermerhorn, Kingwood Oil 1.
4-20- 5 Davis, Flynn & Morgan et al 1.
15-20- 7 Maymkan, Bailey et al 1-A.
17-20- 7 Pettit, Ed Reese 1.
24-20- 8 Wasson, Southwestern Oil 7.
8-20-10 Bush, Shaffer & Mankin 5.

Wells Drilling

33-23-3e Millers, Marland Ref. 4.
Ely, Magnolia Pet. 2.
Miller, Watchorn Oil & Gas 2, 5, 6, 8, 9, 11.
22-23- 4 Zandoski, J. L. Donahue et al 1.
5-23- 5 Phillips, Haley, Garber & Pulse 2.
4-22- 3 Millers, Magnolia Pet. 5.
Arketka, Magnolia Pet. 2.
5-22- 3 Wolf, Magnolia Pet. 1.
Altaffer, Magnolia Pet. 3.
9-22- 3 Arketkata, Magnolia Pet. 2.
1-21- 5 Hill, C. J. Wrightsman 1.
36-21- 8 Williams, Riverside Oil 1.
1-20- 6 Peck, Josey Oil 1.
8-20- 6 Sharp, Magnolia Pet. 2.
16-20- 6 School Land, Magnolia Pet. 1.
17-20- 6 Truesdell, Carter Oil 4.
White, Watchorn Oil & Gas 4.
21-20- 6 Embey, Josey Oil 1.
22-20- 6 Lesher, Martin & Dempsey 1.
Smith, Westerly Oil 4.
15-20- 7 Ham, Prairie Oil & Gas 2, 3.
Henshall, Mullendore 1.
17-20- 7 Pettit, Clifford et al 1.
Orr, Ora Steer 2.
24-20- 8 Wasson, Southwestern Oil 10.
30-20- 8 Walkup, McCray et al 1.
14-20- 9 Ackely, H. W. Jones et al 1-A.
25-20- 9 Townsite, Holbrook, Bartlett et al 1.
Townsite, Mutual Oil 1.

Wells Shut Down

33-23- 3 Miller, Watchorn Oil & Gas 8.
4-22- 3 Diamond, Watchorn Oil & Gas 1-A.

25-22- 6 Bell, Victor Oil & Gas 1.
8-21- 7 Strasnider, R. C. Freeman et al 1.
21-21- 7 Armstrong, Flight & Nixon 1.
32-21- 8 Meier, Adamson et al 1-A.
14-20- 5 Lean, Haley, Garber & Pulse 1.
28-20- 6 White, Davis Drilling 1.
4-20- 7 Townsite, Vick Oil Syndicate 1.
17-20- 7 Pettit, Galvez Oil 3.
18-20- 7 Peterson, Gowland et al 1.
25-20- 7 Brown, Smith & Dwise 5.
Rigs, 10; wells drilling, 45; total, 55.

PAYNE COUNTY

Rigs

9-19- 5 Hudson, Gorr Oil 3.
32-18- 4 Payne, R. C. Jones et al 2.
16-17- 4 Story, Bailey et al 1.

Wells Drilling

21-19-1w Bolington, Ponca Oil & Gas 1.
34-19- 4 Main, Magnolia Pet. 3, 10.
8-19- 5 Armour, Garr Oil 2.
35-19- 5 Bushee, Home Gas 1.
36-19- 5 Ellis, Josey Oil 4.
17-19- 6 Spurgeon, Carter Oil 1.
Douglas, Carter Oil 2.
21-19- 6 Underwood, Magnolia Pet. 1.
23-18- 3 Derry, Deep Rock Oil & Gas 1.
23-18- 4 Broyles, Mulberry Oil 2.
18-18- 5 Tull, Carter Oil 1.
30-18- 6 Base, Home Gas 1.

Wells Shut Down

2-20- 2 Cobb, Colorado Oil & Gas 1.
6-19- 4 Dunn, T. Slick 1.
2-18- 5 Busby, Josey Oil 1, 2.
Rigs, 3; wells drilling, 17; total, 20.

KAY COUNTY

Rigs

4-27-1w Case, Harold Pet. et al 1.
10-27-1w Humphrey, Blackwell Oil & Gas 2.
16-27-1w Slocum, Anoln Pet. 4.
17-27-1w Robinson, Marland Oil 2.
3-27- 5 Cooper, Phillips Pet. 2, 3.
2-26- 4 Brown, Schunder et al 1.

Wells Drilling

21-29-1w Duncan, Comar Oil 1.
9-28- 4 Cooper, Douglas Oil 1.
15-27-1w Skelton, Otstot et al 2.
16-27-1w Slocum, Manahan & Otstot 2.
Laughrey, National Union 2.
Arnold, Kay & Kiowa Oil 1.
Slocum, Otstot Dev. 1.
21-27-1w Vandever, Marland Oil & Ref. 1.
7-27- 2 Williams, Comar Oil 1.
4-27- 5 Laurel Oil & Gas 3.
George S. Bole 5.
8-27- 5 Sam Wood, George Bole 1.
1-27- 5 Phillips Pet. 1.
15-27- 5 McCaskey, Twin State Co. 15.
8-26-2w Vanata, Day Oil 1.
12-26-2w North, Marland Oil 1.
McCullough, Alcorn Oil.
15-25-2w Thomas, Alcorn Oil 1.
16-25-2w Thomas, Alcorn Oil 1.
Smith, Marland Oil 1, 2.
21-25-2w Thomas, McCaskey & Wentz 1.
Turk, Carter Oil 1, 2.
22-25-2w Siler, Twin State Oil 1.
30-25-1w Pool, Thornton & Bailey 1.
34-25-1w McDaniel, Blackwell Oil & Gas 1-C, 7-A.
Pennok Oil 1-D, 2-D, 3-D, 4-D, 5-D, 6-D, 8-D.
Endicott, Comar Oil 1-W, 2-W, 3-W, 4-W, 5-W, 6-W, 7-W.
McKee, McCaskey & Wentz, 18, 29, 45, 46.
Woods, Amerada Pet. 33, 34.
Beverlin, Comar Oil 1-W.
Endicott, T. B. Slick 1-A, 2-G.
35-25-1w Endicott, T. B. Slick 3-E, 4-E, 5-E, 7-E, 8-E.
Ogg, Comar Oil 1-W.
Endicott, Comar Oil 10-A, 1-W, 7-W, 5-W.
14-25-1e Harris, O'Kansas Oil 1.
17-25-2e Bear, Marland Ref. 3.
18-25-2e Sky, Marland Ref. 1.

Wells Shut Down

11-28-1e Lowery, Okla. Northern Oil & Gas 1.
15-28- 1 Tenary, Grand Island Oil & Gas 2.
17-28- 1 Purdy, Southwestern Pet. 3.
14-28- 4 Bacon, Miller & Freadway 1.
3-27-1w Rhors, Otstot Dev. 1.
16-27-1w Slocum, Mannahan et al 3.
13-27-1e Koefer, Prod. & Ref. 1.
4-27- 5 Comar Oil 3.
Pappan, Roxana Pet. 7.
26-26-1w Forless, Dance et al 1.
6-26- 2 Hadley, Alcorn Oil 1.
4-25-2w Dreger, Clair & Smith 1.
27-25-2w Simmons, W. E. Brown Oil 1.
36-25-2w Davis, Emery & Lerigler 1.
27-25-1w Sulter, M. E. Man Oil 4.
33-25-1w Swabb, Cosden & Marland 4.
Woods, Cosden & Marland 3-A.
34-25-1w McKee, McCaskey & Wentz 2.
35-25-1w Ogg, Comar Oil 3.
Endicott, Comar Oil 4
Koffenbrink, Comar 4-W, 3.
Rigs, 7; wells drilling, 87; total, 94.

GARFIELD-NOBLE COUNTIES

Rigs

2-24-1w Blubaugh, Comar Oil 7-A.
11-24-1w Rence, Healdton Oil & Gas 2-A.
15-24-1w Morris, Champlin Ref. 4.
21-24-1w Smithhisler, Champlin Ref. 2.
30-24-1w Wilkins, Mid-Co Pet. 1-A.
36-23-5w Schraum, Martin & Fleming 1.
3-23-1w Durian, Foraker & Reed 1.
25-23-1w Burnsides, Jankowsky et al 1.
24-22-4w Belveal, Sinclair Oil & Gas 25.
11-21-4w Wirtz, Boeppe et al 1.
7-21-3w Wirtz, Chaffee et al 1.
30-21-1w Grim, Twin State Oil 1.

Wells Drilling

2-24-1w Shawver, Gypsy Oil 81, 82, 83, 84, 85.
Gaume, Comar Oil 12-B, 14-A, 15-A, 1-W.
Blubaugh, Comar Oil 4-B, 5-B, 5-A, 8-C, 9, 10-A, 15-B, 23-B.
3-24-1w Pettit, Comar Oil 5-W, 11-W.
Ruzek, Blackwell Oil & Gas 4-C.
9-24-1w Doty, Ponca City Oil & Gas 1.
11-24-1w Rence, Healdton Oil & Gas 13-B.
McCutcheon, Comar Oil 1.
29-24-1w Case, Mid-Co et al 11-A.
11-23-2w Glenwood, Tidal Oil 1.
16-23-2w Neil, Tidal Oil 15.
21-23-1w Forman, Walters Oil & Gas 1.
9-22-9w Unknown, Bradstreet Oil 1.
18-22-4w Crews, Heirs 15.
25-22-4w Windler, Sinclair Oil & Gas 13, 14.
Frickenschmidt, Sinclair Oil & Gas 10.
Hay, Sinclair Oil & Gas 19.
26-22-4w Heim, Imo Oil & Gas 9.
30-22-3w Campbell, Sinclair Oil & Gas 17.
1-22-2w White, Kelly et al 1.
22-21-4w Miller, Alcorn Oil & Gas 1.
15-21-2w Sams, Bu-Vi-Bar Oil 1.
12-21- 3 Hutchinson, Ossenbeck & McMan 1.
27-21- 3 Dollarhide, Alcorn Oil 1.

Wells Shut Down

22-24-2w Darby, Wilkins & Gore.
3-24-1w Pettit, Comar Oil 18-B.
15-24-1w See, Comar Oil 7-A, 15.
20-24-1w Reed, Williams & Ray 2.
14-24- 2 Edmonds, Cosden Oil 1.
20-24- 2 Ray, F. G. Ossenbeck 1.
17-23-8w Diveley, Lee Bullock et al 1.
26-23-7w A. T. Cox, Katherine Oil 1.
6-23-6w Hess, Weird Wood Oil 1.
9-23-5w Cope, Zinc & Barnes 1.
15-23-2w Washburn, Mid-Co Pet. 13.
3-22-5w Wingert, Fleming et al.
20-22-4w Crane, Hollingsworth et al 1.
24-22-4w Belveal, Sinclair Oil & Gas 24.
25-22-4w Hotson, Empire Gas & Fuel 19.
31-22-3w Morrison, Sinclair Oil & Gas 6.
2-21-7w Montgomery, Furlow et al 1.
31-21-5w Vanderwork, Summers Oil & Gas 1.
17-21- 2 Nicholson et al 1.
7-20-6w Sneary, Jens Marie Oil 1.
19-20-5w Smith Ray, Summers Oil & Gas 1.
13-20-4w Trammell, Summers Oil & Gas 1.
25-20-4w Crouse, Danc'ger Bros. 1.
32-20- 1 Thompson, Nelson & Handen 1.
Rigs, 14; wells drilling, 65; total, 79.

CARTER COUNTY

Rigs

20-5s-1e L. Baptiste, Amerada Pet. 4.
9-4s-2w Lowery, Schermerhorn Oil 1.
16-4s-2w Mullens, Carter Oil 12.
21-4s-2w Noble, Carter Oil 43.
Ward, Carter Oil 21, 22.
23-2s-3w Fee, C. R. Smith 2.
25-2s-3w Jefferson, Walter Newstadt 1.
30-2s-2w Sparks, Skelly Oil 3.
32-2s-2w Palmer, Schermerhorn et al 6-B.
28-1s-3w Carsons, Tidal Oil 1.
Sellers, Templeman & Frantz 2.
33-1s-3w Tipton, Humble Oil & Ref. 2.
34-1s 3w Miller Sykes, Heenan & Coe 1.
35-1s-3w Williams, Magnolia Pet. 1.

Wells Drilling

17-5s-1e Watkins, Iowa Oil & Ref. 3.
20-5s-1e M. Baptiste, Amerada Pet. 16.
Kirby, Amerada Pet. 1.
29-5s-1e J. Baptiste, Amerada Pet. 3.
4-4s-3w Mullen, Tw'n State Oil 16.
Johnson, Roxana Pet. 20.
Weathelmer, Pure Oil Co. 31.
15-4s-2w Rexroat, Cottonbelt Oil 11.
16-4s-2w Schallenberger, Magnolia Pet. 5, 11.
Ward, Carter Oil 14.
21-4s-2w Noble, Carter Oil 2, 39.
Noble, Skelly Oil 13.
Dillard, Wolverine Oil 2.
Hofner, Magnolia Pet. 12.
Ward, Gypsy Oil 11.
22-4s-2w Hefner, Carter Oil 18.
Dillard, Wolverine Oil 31, 52.
Carr, Rockland Oil 8.
Dillard, Skelly Oil 16.
Dillard, Westhelmer & Daube 5, 14
Dillard, Westhemer & Daube 5, 15. 16.
16-4s-1e Bratcher, R. Femlee et al 1.
15-3s-2w Cobb. Merrck et al 1-A.
Dickson. Schermerhorn et al 1-B, 3.
6-3s-2w Palmer, Marcum et al 10.
8-3s-2w Ledbetter, Schermerhorn Oil 1.
30-3s-1w Brown, Prairie Oil & Gas 1.
31-3s-1w Walton, Emp're Gas & Fuel 1.
27-3s-2e Brown, Home Oil 1.
22-2s-3w Lahman, W. Franklin 1.
23-2s-3w Jones, Fitzgerald 3.
Jones, Twin State Oil 1, 2, 3.
Lahman, Magnolia Pet. 6, 7.
E. Lahman, Magnolia Pet. 1, 2, 3, 4.
Jones, Magnolia Pet. 1.
24-2s-3w Fulsom, Humble O'l & Ref. 1.
Fulsom, Cameron Ref. 1, 2.
25-2s-3w Jefferson, Skelly Oil 3.
Lahman, Magnolia Pet. 7.
Jefferson, Atlantic Oil Prod. 2.
Simpson, Magnolia Pet. 7.
Jefferson, Twin State Oil 4.
Wolfe, Southwestern Pet. 6.
26-2s-3w Lowery, Magnol'a Pet. 5.
18-2s-2w Pierce, Yore Oil 3.
16-2s-2w Stevens, Westhelmer & Daube 1.
30-2s-2w Sparks, Cotton Belt Oil 7.
Sparks, Schermerhorn Oil 8.
Sparks, Young 8.
31-2s-2w Fowler, Westhelmer & Daube 6.
Bennett, Magnolia Pet. 7.
Palmer, Marcum et al 8.
32-2s-2w Burrows, Humble Oil & Ref. 2.
10-1s-3w Gray, Magnol'a Pet. 1.
18-1s-3w Hardin, Magnolia Pet. 1.
20-1s-3w Tuggle, Simpson-Fell Oil 1.
28-1s-3w Carson, Joe Lathrop et al 1.
Gray, Franklin & Gypsy Oil 1.
Sellers, Humble Oil & Ref. 2.
29-1s-3w Sellers, Humble Oil & Ref. 1.
M'ller, Humble Oil & Ref. 1.
32-1s-3w Hart, Magnolia Pet. 1.
33-1s-3w Tipton, Humble Oil & Ref. 1.

Wells Shut Down

13-5s-3w Bell, Wickenheizer et al 1.
11-5s-1w Ringling, Martin et al 1.
4-4s-3w Jones, Coline Oil 37-A.
9-4s-3w Franklin, Lawrence Gas 27.
9-4s-2w Vorhees, Humble Oil & Ref. 14.
21-4s-2w Noble, Carter Oil 46.
22-4s-2w Dillard, Humble Oil & Ref. 8, 9.
5-3s-2w Apple, W. Franklin 2.
6-3s-2w Palmer, Marcum et al 7.
Sheppards, Page Oil & Gas 3.
Pondo, Acco Oil 1.
8-3s-2w Harrison, Noble Drilling 1.
4-3s-1w Willford, E. B. Lynn 1.
22-2s-3w Carpenter, Humble Oil & Ref. 2.
23-2s-2w Cruce, Humble Oil & Ref. 2.
Davis, Fox Pet. 1.
Townsite, Hawks & Weire et al 1.
Cruce, Skelly Oil 1.
23-2s-3w Fee, C. R. Smith 1.
26-2s-3w Fee, C. B. Sm'th 7.
27-2s-3w Hefner, Magnolia Pet. 4.
Fee, C. R. Smith 5.
McClure, Page Oil 4.
32-2s-2w Witsenhausen, Rockland Oil 6, 8, 9.
36-2s-3w Choate, Tidal Oil 1.
19-2s-2w Dickerson, Hivick et al 1.
31-2s-2w Palmer, Marcum et al 2.
32-2s-2w Fee, Healdton Pet. 1.
29-2s-1w Johnson, Oswego Oil 1.
28-1s-3w Sellers, Templeman & Frantz 1.
19-1s-2w Morris, Groomes et al 1.
Rigs, 15; wells drilling, 108; totals, 123.

STEPHENS COUNTY

Rigs

14-1n-9w Adkins, Waldman & Schramm 2.
33-1n-8w Morgan, Coline Oil 3-C.
22-1s-8w Worrell, Fisher & Brannon 3.
36-1s-8w Brandh, Clark & Cowden 1.

Wells Drilling

31-2n-8w Allen, J. W. Sarrell et al 1.
6-2n-4w Simmons, Gant et al 1.
26-1n-9w Oliver, Magnolia Pet. 7, 9.
19-1n-5w Colbert, Magnolia Pet. 1.
3-1n-4w Wade, Texas & Pacific 1.
23-1n-4w Edwards, Russell & Grimes et al 1.
11-35-8w Davidson, Four Star Oil et al 1.
9-2s-7w Patty, Anderson & Avant 1.
15-2s-7w Toney, Magnolia Pet. 1.
17-2s-7w Wilson, Magnolia Pet. 6.
10-2s-6w Harley, National Ref. 1.
14-2s-6w Norman, Magnolia Pet. 1.
1-2s-5w Dickson, Midget Oil 9.
8-2s-4w McDonald, Magnolia Pet. 5.
5-1s-8w Hood, Gant et al 1.
19-1s-8w Johnson, Calhoma Oil 4.
20-1s-8w Britton, Malernee et al 1, 6.
22-1s-8w Warner, Crude & Oil Drilling 1.
27-1s-8w Schick, Brigsby Oil 1.
32-1s-8w Blaydes, Amerada Pet. 11.
33-1s-8w Stephen, Magnolia Pet. 7.
34-1s-8w Nigh, McAueen et al 3.
4-1s-7w Vandever, Stella Shopton 1.

Wells Shut Down

25-1n-9w Beem, Humble Oil & Ref. 4.
3-1n-7w Stitch, Atlantic Oil Prod. 1.
13-1n-5w Chism, Ketney et al 1, 2.
4-3s-5w Landon, Owl Oil 4, 15.
4-2s-8w Church Lot, Poor Boy Oil 2.
10-2s-7w Selby, Gant, Becker & Frates 1.
17-2s-7w Wilson, Magnolia Pet. 3.
18-2s-7n Bourne, Mid-Kansas Oil & Gas 5.
30-2s-7w Enloe, Holbrook et al 1.
25-2s-6w Bettes, Caddo-Ruffi Oil 1.
6-2s-4w Ingram, Magnolia Pet. 8.
4-1s-8w Parks, Gant et al 1.
33-1s-8w Stephens, McMan Oil 15.
25-1s-6w Fresley, Skelly Oil 23.
35-1s-5w Fresley, Adams Bros. & Prince 14.
Rigs, 4; wells drilling, 42; total, 46.

MISCELLANEOUS

Rigs

Beckham County—
31-8-21w Unknown, Kouri et al 1.
32-9-23w Unknown, Foster & Santrock 1.
Coal County—
1- 1-11 Nichols, G. F. Vaughn 1.
18-3n- 9 Hicks, Dillard 1.
Garvin County—
13- 2- 3 Dilbeck, Goldentine Oil 1.
8- 1-3w Derdyn, T. & P. C. & O. 4.
23- 5-8w McCaughtry, Stogner et al 2.
Grady County—
6-10-8w Ballard, Bowles & White 1.
Grant County—
8-26-5w Biggs, Jarvis et al 1.
22-27-3w Stewart, Western States Oil 1-A.
Greer County—
4-3-22w Unknown Bozo & Terrell 1.
Kingfisher County—
17-19-5w Hank, Jens Marie Oil 1.
Lincoln County—
21-14- 6 Brace, Roxana Petroleum 3.
12-14- 6 Townsite, Wheeler & Webb 2.
Townsite, J B. Bailey et al 1.
Townsite, Berry et al 1.
Townsite, Hoyt & Wicker 1.
Townsite, Union Pet. & Supply 6, 8.
Townsite, Dowell et al 2.
Logan County—
28-15-1w Ganough, Lambert et al 1.
33-18-3w Guier, Haley & Smith et al 1.
35-17- 4 Lindsley, Casing Roy 1.
Major County—
36-22-14w Lindeville, Texas Prod. 1.
Pontotoc County—
14-4-7e Norris, Howarth O & G. 1.
Roger Mills County—
10-16-21w Seaba, Kellogg et al 1.
33-13-21w Fields, Texas Oil Dev. 1.
Texas County—
4-1-12 Allison, Home Dev. Co. 2.

Wells Drilling and Shut Down
(Shut Down Wells Indicated by *)

Alfalfa County—
23-24-11w Twin Bull, Armstrong et al 1*.
21-27-10w Watts, McGinnis & Ward et al 1*.
Beaver County—
33-5-28e Dewey, Gate Valley Oil 1*.
6-1-20e James, Empire 1*.
17-3-23 Unknown, Skaer 1*.
Beckham County—
34-10-24w Green, Belleau et al 1*.
15-10-22w Wilkerson, Phillips et al 1*.
15- 9-23w Montgomery, Magnolia Pet. 1*.
15- 9-23w Goldsmith, Sayre O. & G. 1*.
19- 8-21w Van Vector, Kadane et al 1*.
18- 9-22w Seidel, Christmas et al 1*.
35-10-22w Unknown, Simpson et al 1*.
35- 9-25w Gibson, Grimes et al 1.
21- 9-23w Roberts, Ike Williams 1*.
24- 8-22w Unknown, L. I. Lyons 1.
36- 8-22w Totty, Kouri et al 1*.
32- 9-23w Kight, Foster Oil 2.
Kight, Prince & Prince 1*, 3*.
6- 9-24w Burkhalter, Pringle et al 1*.
29- 9-23w Baker, Caudill & Cravey 1.
31- 9-23w Windle, Carter Oil 3.
14- 9-23w Ingram, The Texas Co. 1*.
Blaine County—
7-18-10w Cronister, Byers et al 1*.
21-15-10w Frenmeler, Okomo Oil 1*.
30-15-11w Vogt, F. & N. Oil 1.
23-15-11w Lookabaugh, Pringred & Farron 1.
Caddo County—
11- 5- 9w McKenna, Lawhead et al 2.
Hedland, Briscoe & Hall 2, 3.
35- 6- 9w Fugate, Acme Dev. 3.
8-11-12w Yeat, Birmingham & Kelsey 1*.
Canadian County—
34-13-9w Dawson, Ponca O. & G. 1*.
2-13-8w Wrightsman & Revals 1.
Cherokee County—
23-19-21 Unknown, Adkison et al 1*.
23-18-19 McKay, Great Western Dev. 1.
20-17-22 Benge, Beeler et al 1.
6-16-22 Unknown, Corridan et al 1*.
33-15-23 Unknown, Gahoma O. & G. 1*.
Cimarron County—
22-5-9e Martin, Campbell, Riley et al 1*.
Cleveland County—
21-10-4w Rowland, Garr Oil 1*.
Coal County—
24-1n-8e Jefferson, McPherson et al 1*.
34-2n- 9 Park, Bassell Oil 1*.
Comanche County—
33- 2- 9w School land, Samuels 1.
32- 2- 9w Fatch, Harry Hanberry 1.
24- 2-10w Cox, Cherry et al 1.
Custer County—
1-15-15w Rough, Parker O. & G. 1*.
26-15-17w Thatcher, Price & Pringley 1*.
1-14-14w Boone, Gullet & Ossenbeck 1*.
23-13-14w Fry, Pauline Oil 1*.
Dewey County—
22-16-18w Elders, Morton et al 1*.
Ellis County—
2-21-24w White, Gage O. & G. 1*.
Garvin County—
21- 4-1w Florence, Aetna Oil 1*.
13- 1-3w Hatfield, Texas & Pacific 7.
35- 1-3w Riddle, Texas & Pacific 1.
18-1n-3w Derdyn, Murphy et al 1*.
10-3n-3e Huttall, Heath & Bowman 1*.
10- 1-3w Gibson, Magnolia Pet. 5-A.
18-1n-1e Richardson, Binder et al 1*.
Grady County—
28- 3-5w Pearcy, Magnolia Pet. 1.
28- 3-5w Harrison, Magnolia Pet. 1.
7- 3-5w Horton, Roy Nash 1.
23- 5-8w McCaughtry, Stogner et al 1.
22- 5-7w McFarland, Badgett & Hughes 2.
17- 5-7w Nail, Nichols Drilling 2.
30- 6-6w Gray, Luginbyhl et al 1.
11- 3-5w Sherrell, Gant Becker 1.
Grant County—
27-27-3w Lane, Western States 1.
3-26-6w McKenna, Wrightsman 1.
20-26-4w Edwards, Emery & Leright 1*.
26-27-3w Snouffler, Associated P. & R. 1*.
22-25-4w Volmer, Myers O. & G. 1.
19-25-5w Reynolds, Hutchison et al 1.
8-27-5w Moon, Midwest & Gulf 1*.
11-26-5w Bonham, Broadhurst & Foster 1.
14-25-5w Midgley, Myers O. & G. 1*.
23-27-3w Martin, Day Oil 3.
29-29-4w Ridings, Phillips Pet. 1.
22-27-3w Lane, Blackwell O. & G. 2.
14-27-3w Howell, Blackwell O. & G. 1.
30-27-4w Fuss, Thraves et al 1.
Greer County—
23- 7-23w Drummond, Western Nat. Gas 1*.
3- 7-22w Pohnson, Neal et al 1.
27- 7-22w Bowman, White & Debolt 1*.
Jackson County—
36-2n-23w Unknown, Ship et al 1.
Kingfisher County—
30-16-9w Burton, Pansy Oil 1*.
25-17-5w Smith, Bryssey & Hines 1*.
Kiowa County—
24-7-16w Indiana Land, Conner et al 2.
2-7-17w Unknown, Aubyme Oil 1.
Lincoln County—
1-14- 6 Zeller, Roxana Pet. 6, 7, 8.
Welch, Amerada & Wrightsman 1.
2-14- 6 Brooks, W. Phillips & Sinclair 1*.
Jackson, Union Pet. & Supply 2.
2-14- 6 Schubel, Union Pet. & Supply 1*.
9-14- 6 Doolen, Prairie O. & G. 1.
11-14- 6 Barber, The Texas Co. 2.
12-14- 6 Dowell, J. A. Hull 4, 6, 7.
Townsite, Union Pet. 2, 3, 5, 7.
Townsite, Willis O. & G. 1, 2, 3.
Lewis, Amerada Pet. 3, 8.
12-14- 6 Brace, Roxana Pet. 2, 3.
Brace, Gypsy Oil 1.
Townsite, Dowell et al 1, 2.
Townsite, C. F. Noble 1, 2.
Townsite, Wheeler & Webb 1.
Lewis, Roxana Pet. 1.
28-17- 3 Unknown, Plateau Oil Co. 1*.
16-16- 4 School Land, Sartain Bros. 1*.
17-15- 3 Powell, The Texas Co. 1.
15-15- 6 Lovett, Blankenship et al 1.
21-14- 6 Scheiff, Stroud C. & G. 1*.
6-15- 6 Earp, Independent O. & G. 1.
34-15- 5 Edwards, Flynn & Morgan 1.
7-14- 4 Norton, Heinz & Green 1.
7-13- 3 Ewing, Douglas Oil 1.
14-13- 6 Heinzig, Prod. & Ref. 1.
18-13- 5 Keller, Sun Ray Oil 1.
7-14- 5 Ayers, Magnolia Pet. 1.
18-14- 5 Bray, Magnolia Pet. 1.
18-14- 6 Wilson, Jennings Bros. 1.
12-14- 4 Leake, Pure Oil 1.
20-14- 4 Spencer, J. C. Cooke 1.
23-17- 3 Young, R. W. Wills 1.
20-17- 5 Linaley, Grimes et al 1.
22-15- 2 Jones, F. O. Howarth 1.
32-15- 4 Dodrill, Magnolia Pet. 1.
1-15- 6 Bowers, McMan O. & G. 1.
15-14- 6 Sac & Fox, J. C. Cook 1.
5-13- 6 Lewis, Mountain States Oil 1.
26-12- 2 Walker, Eugene Costa 1*.
8-12- 5 Richardson, J. C. Cook 1.
Logan County—
36-15-2w Baker, Oklahoma Drg. 1*.
32-19-3w Newman, Burford & Brim 1.
23-15-1e Pritchard, Magnolia Pet. 1.
9-18-2w Wyatt, Mahall Oil 1*.
28-16-1w Driggs, Pluto O. & G. 1*.
28-18-4w Moore, Franklin Oil 1.
Major County—
9-22-9w Unknown, Bradstreet Oil 1.
36-21-11w Williams, Frantz & Slick 1*.
Murray County—
29- 2- 2 Murray, Black Pet. Co. 1.
Oklahoma County—
36-11-3w Unknown, McBeth 1.
Pittsburg County—
29- 6-12 Townsend, Richards 1*.
22- 3-13 Fee, Ward Smith 1*.
Pontotoc County—
28-3n-4e Collins, Dixie Oil 2.
19- 5-7e Edwards, Howarth O. & G. 1*.
32- 5-5e Brown, Carter et al 2*.
6- 3-7e Alberson, Lloyd & Smith 1.
5- 4- 3 Starrett, Craig et al 1.
4- 2- 7 Walker, Empire G. & F. 1*.
17- 4- 6 Merryman, American O. & R. 1.
15- 3- 6 Mays, Fitz Oil 1.
24- 4-4e Dunagan, C. J. Wrightsman 1.
28- 4- 7 Porter, Hughes et al 1*.
34- 5-6e Stringer, Bowles & Smith 1*.
Pottawatomie County—
19- 7- 4 Negligneuet, Pierce & McMan 1*.
4- 5-5e McFarland, Riverland Oil 1*.
9- 5- 3 Ball, Day Oil 1.
13-11- 3 Unknown, Blaumer et al 1.
10- 6- 2 McGee, Davy et al 1.
13-10- 2 Howell, Ossie Oil 1.
25-10- 4 Brooks, T. F. McMann 1*.
Pushmataha County—
33-2n-19e Peachwood, Anchor Oil 1*.
31-3s-15e McGee, George et al 1*.
Roger Mills County—
28-14-23w Lindell, Porter Lease Synd. 1*.
3-13-26w Baker, Concord Oil 1*.
32-16-22w Unknown, Colorado Oil 1.
15-15-26w McClure, Thomas & Fide 1.
Sequoyah County—
1-11-12 Wilson, Mathes Pet. 1*.
Texas County—
6-1n-17e Wood Ranch, Beaver Oil 1*.
Tillman County—
11- 1-17w Faulkner, H. S. & H. Oil 1.
Washita County—
9- 8-15w Prettearess, A. D. Morton et al 1*.
33- 9-17w Unknown, Hartman et al 1*.
33- 8-18w Ries, Sun Ray & Aubyme 1*.
Woodward County—
34-20-20w Unknown, Beard et al 1*.
Woods County—
19-24-14w Whitney, McCray et al 1*.
10-25-15w Buskirk, Victor Oil 1*.

SOUTHERN OKLAHOMA

Rigs

Jefferson County—
34-5s-6w Culbertson, Barber et al 1.
4-6s-5w Brown, Ely et al 1.
34-6s-5w Seay, Prairie O. & G. 1.
Love County—
29-6s-3e Starrett, Simms Pet. 2.

McCurtain County—
25-8s-23e Brown, Noco Pet. 1.
Wells Drilling and Shut Down
(Shut Down Wells Indicated by *)
Atoka County—
7-2s-9e Wyatd, McPherson et al 1*.
23-2s-9e Underwood, Wapanucka Dev. 1*.
17-4s-11e Dabney, Hauser et al 1.
1-5s-9e Kemp, Florence Oil 2*.
Bryan County—
22-7s-8e Ramsey, Barlieu 1*.
24-6s-7e Starles, Patterson & Hoffman 1*
26-7s-11e Alexander & Oppenheimer 1*.
11- 6-9e Coombs, Lyons Pet. 1*.
14- 7-7e Love, H. C. Hailey 1*.
Choctaw County—
9-6s-15e Goekel, Smith et al 1.
Jackson County—
15-1s-23w Unknown, J. R. Abernathy 1.
Jefferson County—
1-7s-6w Seay, Humble O. & R. 1.
2-7s-7w Wray, Jas. Lugg 1.
13-7s-6w Reed, Landis et al 1*.
33-6s-5w Seay, Hambro Oil 2, 3.
33-7s-6w Stanfield, Elize et al 1*.
34-6s-5w Seay, Clark & Cowden 1*.
4-7s-5w Seay, Couch & Cherry 1.
5-7s-5w Seay, John O'Donohue 1.
19-7s-5w Reed, Southerland Pet. 1.
21-5s-6w Major, Tarkington & Kelsey 1.
9-4s-4w Mullins, Healdton Pet. 1.
Johnston County—
9-4s-4e Trotter, Root et al 1*.
Love County— 6 1
11-7s-7e Wilson, Drillers Synd. 1*.
17-5s-1w Clunkey, Humble O. & R. 1.
Marshall County—
13-6s-7e Burney, Alexander & Ellis 1*.
26-5s-6e Holden, United 8 Oil 1*.
McCurtain County—
14-8s-25e Harris, Bellworth O. & G. 1*.
15-8s-26e Wilson, Red River Pet. 1*.
Tillman County—
6-5s-15w Hanneville, Fidelity Oil 1*.
23-2s-17w Foster, Luffborough 1*.
10-4s-18w Couch, Spears et al 1*.
34-1s-17w Brink, Luffborough 2*.
Rigs, 29; wells drilling, 233; total, 262.

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	6	65	4	0
Montgomery-Wilson-Neosho-Allen	19	410	5	4
Miami-Franklin-Anderson	67	2,515	14	0
Greenwood-Woodson	35	2,613	3	0
Marion	1	0	1	0
Chautauqua-Elk	3	110	3	1
Miscellaneous	13	3,640	3	1
Total July	144	9,253	31	5
Total June	81	9,803	22	3
Difference	63	550	9	2

Summary of New Operations

County—	Rigs	Drg.	Ttl.
Butler	3	13	16
Montgomery-Wilson-Neosho-Allen	3	11	14
Miami-Franklin-Anderson	0	12	12
Greenwood-Woodson	30	63	93
Marion	4	3	7
Chautauqua-Elk	2	7	9
Miscellaneous	30	147	177
Total July	72	256	328
Total June	73	226	299
Difference	1	30	29

BUTLER COUNTY

Wells Completed

16-23- 6 Hay, Roy Ramsey 1..... dry
7-29- 6 Meyers, W. E. Crum et al 1.. dry
23-28- 7 Brewer, Rich et al (O. A. Boyle) 2..... 15
5-27- 6 McLean, Blue Stem Oil 2..... 50
19-28- 4 Serivener, Ramsey Pet. & Haines 5..... dry
25-28- 5 Bowyer, Skelly Oil & Davis 5 dry

Wells completed..... 6
Production 65
Dry 4
Gas 0

CHAUTAUQUA-ELK COUNTIES

27-30-9e Schull, Dedrick et al 1..... abd
12-29- 8 Porter, Roth-Burt Oil 4..... 50
Porter, Roth-Burt Oil 6..... 60

Wells completed..... 3
Production 110
Dry 1
Gas 0

MARION COUNTY

3-21- 5 Beckett, Chester Crow et al 1 dry

Wells copleted..... 1
Production 0
Dry 0
Gas 0

ANDERSON COUNTY

1-21-19 Smerchek, W. S. Fees et al 9 60
16-21-20 Weiss, Bellport & Campbell 2 20
Ware, Albert H. Keys 12..... 20
18-21-20 Milicher, Geo. Snyder et al 1 dry
18-21-21 Crittenden, Compton & Galbraith ..... dry
24-20-19 Zweiner, Hart et al 3..... 10
14-21-20 Cochran, Southwestern Oil 10 40
Cochran, Southwestern Oil 11 35
14-20-17 Drybread, Burton 1..... dry
1-21-19 Benjeman, Denton Pet. 6..... 60
16-21-20 Fugsley, Leapyear Oil 2..... 20
25-20-19 Nichols, Winters & Gebtles 1.. 10
14-21-20 Cochran, Southwestern Oil 9.. 70
Odeffer, Southwestern Oil 9.. 70
18-21-20 Babb, Peerless Oil of Kas. 1.. 70
17-21-20 Anderegg, Geo. Snyder 1..... 70
15-21-20 Ware, A. H. Keys 11..... dry
1-21-19 Smerchek, W. S. Fees et al 8.. dry
9-22-19 Buchanan, Radio O. & G. 7.. 50
Strain, Radio O. & G. 6..... 60
Strain, Strain O. & G. 8.... 65
3-22-19 Frazier, John Van Horn 11.... 4
35-21-19 Brechelsin, T. W. Reid 3..... dry
9-22-19 Buchanan, Radio O. & G. 9.. 65
27-21-19 Marshall, F. W. Polkinghorn 9 60
9-22-19 Buchanan, Radio O. & G. 10.. 50
16-21-20 Hanley, Leap Year Oil 1..... 20
15-21-20 Derman, Hafel-Templeton 4... 40
15-21-20 Ware, Albert Keys 13..... 130
Ware, Pioneer Mutual Oil 1.. 90
14-21-20 Cochran, Southwestern Oil 14.. 25
15-21-20 Weiss, Bellport-Campbell 3.. 20
35-20-19 Nichols, Holman et al 2..... 12
2-20-19 Zasky, Denton Pet. 4..... 80
14-21-20 Cochran, Southwestern Pet. 13 35
Cochran, Southwestern Pet. 12 30
8-21-20 Kennedy, Henninger 1..... dry
1-21-19 Smerchek, W. S. Fees et al 10 20
15-21-20 Weiss, Bellport-Campbell 3.... 60
13-21-19 Whitestone, J. L. Rich et al 1 15
18-21-21 Mulkey, D. W. Polkinhorn 1.. 90
15-21-20 Ware, Albert Keys 14..... 90
1-21-19 Smerchek, W. S. Fees et al 11 30
13-21-19 Whitestone, J. L. Rich et al 1 15
16-21-20 Wilson, Southwestern Pet. 1.. dry
2-21-19 Louk, H. C. Cooper 2..... 60
22-20-20 Murrow, Cooper et al 1..... dry
27-21-21 Dary, Kelly 3..... 10
2-21-19 Nichols, Denton Pet. 1..... 170
7-21-20 Dunley, McCandless 2..... dry
13-21-20 Ewing, Peerless Oil of Kan. 16 70
15-21-20 Ware, Pioneer Mutual Oil 2.. 90
14-21-20 Cochran, Southwestern Pet. 16 20
Cochran, Southwestern Pet. 15 12
2-22-19 Buchanan, Van Horn-Reichart 2 60
4-22-19 John Paul, Welda Pet. & Gas 1 ..... dry
22-21-19 Ramsey, D. W. Polkinghorn 1. dry
9-22-19 Strain, Strain O. & G. 9..... 75
34-21-19 Mulville, J. T. Graham 8..... 45
22-21-19 Ramsay, D. W. Polkinghorn et al 2..... dry
8-22-19 Starr, Shaftus & Witcher 1.. dry
2-22-19 Gillespie, D. D. Nolan 5..... 45
3-22-19 Settle, Welda Pet. & Gas 4.... 7
9-22-19 Strain, Radio O. & G. 7..... 60
34-21-19 Melville, J. T. Graham 7..... 65

Wells completed..... 65
Production 2500
Dry 14
Gas 0

FRANKLIN COUNTY

4-18-21 Oakley, Kansas-Manhattan Oil 7 10
Sodemah, J. A. Van Horn 1.. 6

Wells completed..... 2
Production 15
Dry 0
Gas 0

MONTGOMERY COUNTY

33-32-15 Clemmer, P. J. Bithorn 2..... gas
4-32-16 Bailey, Independent O. & G. 12 ..... dry
17-34-17 Knox, Red Bank Oil 3..... 25
32-34-17 Fortner, Jesse Graham 4..... gas
Barber, Jesse Graham 9..... dry
5-35-17 Clemons, Eugenia O. & G. 5.. dry
8-34-17 Barber, Jesse Graham 10.... gas
17-35-17 Alloway, Haverhill Oil 2..... 50
5-34-17 Grahack, Edgar Huffman 1.... 30
17-34-17 Lowery, Red Bank Oil 3..... 25
32-34-17 Carl, Red Bank Oil 1..... dry
8-34-17 Carl, Van Vlick-Graham 1.... 25

Wells copleted..... 12
Production 155
Dry 4
Gas 3
Gas production..... 1,250,000

WILSON COUNTY

19-28-14 Wilkerson, Big Six Oil 5..... 1
Wilkerson, Big Six Oil 6..... 3

NEOSHO COUNTY

3-28-18 Newhouse, Francis-Myers 1... dry
19-28-18 Spiectner, Tony Acherman 1.. gas
19-28-20 Richardson, Binghampton O. & G. 6 1
Richardson, Binghampton O. & G. 5..... 1

ALLEN COUNTY

24-24-21 Busby, J. L. Smith et al 1.... 250

Wells completed..... 7
Production 255
Dry 1
Gas 1
Gas production..... 50,000

GREENWOOD COUNTY

11-25- 8 Teichgraber, Plains Pet. 2.... 25
23-24- 9 Holverson, Leonard Pet. 1..... 30
6-24-10 Cartwright, Rogers et al 3... dry
14-24-12 Filley, Houston & Okla. Oil 3.. 20
Filley, Houston & Okla. Oil 4.. 25
23-23-10 Scott, Mid-Kansas O. & G. 5.. 50
10-23-13 Schneider, Theta Oil 19..... 5
23-23-13 Bahr, Cosden O. & G. 8..... 30
Hessler, Dresser Oil 7..... 40
17-22-10 Browning, Rhodes & Abel 5... 20
19-22-11 Harris, Selby O. & G. 1..... 20
27-22-13 Norris, Braden Bros. 4..... 5
34-22-13 Efflinger, Hadlett & Bradford et al 7..... 5
12-24- 9 Cannon, Gypsy Oil 6..... 100
23-24- 9 Wiggins, Mission Oil & Rogers 2 100
6-24-10 Cartwright, Rogers et al 4.. 20
31-23-10 Martindale, Mid-Kansas O. & G. 6..... 100
20-22-10 Browning, Sinclair O. & G. 1.. 85
23-24- 9 Holverson, John Rogers et al 1 200
34-24- 9 Marshall, Roxana Pet. 3..... 75
15-23-10 Edwards, Phillips Pet. 10.... 100
32-23-10 Thrall, Roth & Mission Oil.... 150
15-23-13 Schneider, Shaffer & Howell 10 300
19-22-10 Browning, White Eagle O. & R. 1 ..... dry
20-22-10 Sinclair O. & G. 3, Browning 150
1-24- 9 Heidelman, National Ref. & Lewis Oil 1..... 100
Marsha ll, Arkansas Fuel Oil 4 100
11-24- 9 Lewis, Derby Oil 1..... 18
Lewis, Derby Oil 3..... 140
Lewis, Paulhamus & Revelly 6 100
12-24- 9 Cannon, Gypsy Oil 7..... 140
15-24-12 Johnson, Franklin Oil 1..... 50
28-23-10 Thrall, Mission Oil et al 41.... 50
20-22-10 Browning, Sinclair O. & G. 3 150
16-22-11 Bitler, Milliken et al 1..... dry

Wells completed..... 35
Production 2513
Dry 3
Gas 0

MISCELLANEOUS

Cowley County—
20-33- 3 Wertman, W. Phillips et al 1 1600
Johnson, W. Phillips et al 2.. 750
12-32- 4 Holt, Arkansas Fuel 2..... 50
15-30- 4 Newton, S. & S. Oil 2..... 60
1-35- 7 Smith, Tidal-Osage Oil 3..... 35
6-31- 6 Eastman, Titus et al 1..... dry
Sumner County—
33-32-2e Young, Alcorn Oil 1..... dry
Russell County—
8-12-15w E. Oswald, M. M. Valerius O. & G. 1 750
17-12-15w Munsell, Valerius O. & G. 1.. 135
Riley County—
36- 7-4e Doyle, Charles A. Gentles et al 1 ..... abd
LaBette County—
33-31-18 Carter, Craise, Brown & Dock 2 ..... gas
Bourbon County—
35-23-21 Upton, Harris et al 4..... 350
24-24-21 A. A. Burby, J. L. Smith et al 2 10
Wells completed..... 13
Production 3640
Dry 3
Gas 1
Gas production..... 50,000

BUTLER COUNTY

Rigs

27-18- 5 Cameron, Elwell et al 2.
19-27- 6 Winkle, Skelly Oil 4.
Wells Drilling
22-29- 3 Nible, Hartman & Skaer 1.
5-25- 4 Fitch, Vickers et al 1.
27-24- 6 Benson, Imperial Drilling 1.
Wells Shut Down
30-29- 3 Robinson, Jack Robinson 1.
23-29- 5 Brush, Bellport et al 1.
12-29- 6 Baker, Tobin et al 1.
10-28- 6 Slabaugh, Mid-Kansas Oil & Gas 1.
22-28- 6 Pettit, J. Sharp et al 2.
30-28- 6 McLean, Neiman et al 1.
17-28- 7 Evertson, Dutton, Gillespie & Morgan 1.
33-27- 7 Cleary, Becker et al 1.
32-26- 6 Palmer, Sparta Oil 1.
26-23- 7 Sturgeon, Clark et al 1.
Rigs, 3; wells drilling, 13; total, 16.

GREENWOOD COUNTY

Rigs

3-25- 8 Hover, Phillips Pet. 5.
4-25- 9 Henley, Pure Oil 3.
5-25- 9 Carrington, Bason et al 1.
7-25- 9 Wilkinson, Griggs et al 1.
1-24- 9 Heidlemann, National Refining & Lewis Oil 3.
Cartwright, Mission Oil et al 2.
Marshall, Arkansas Fuel 6.
14-24- 9 Hellman, Prairie Oil & Gas 8.
23-24- 9 Wiggins, Mission Oil & Rogers 3.
Holverson, Gypsy Oil 1.
28-23-10 Thrall, Mission Oil 42, 43.
29-23-10 Thrall, Roth-Faurott & Mission Oil 23, 24.
Thrall, Phillips et al 2.
31-23-10 Martindale, Mid-Kansas Oil & Gas 5.
32-23-10 Lewis, Phillips Pet. 9, 17, 18, 19.
Thrall, Mission Oil 5.
8-23-11 Butterfield, Empire Gas & Fuel 11, 12.
29-23-13 Hays, Arkansas Fuel 12.
19-22-10 Browning, Gillespie et al 5.
30-22-10 Prather, Skelly Oil 1.
11-22-11 Burris, Empire Gulf & Fuel 2.
18-22-11 Hampe, Simmons & Burke 1.
28-22-11 Clark, Phillips Pet. 8.
Wells Drilling
26-26- 8 Kerr, Tom Miller et al 1.
36-26- 8 Buchanan, Burk et al 1.
24-26- 9 Weirshing, Smith & Carlson 1.
26-26- 9 Dimick, Wann & Ross 1.
28-26-13 Ingersoll, Maitland Oil 1.
25-25- 8 Jackson, Pearce et al 2.
1-25- 9 Hawthorne, Dingee et al 1.
18-25- 9 Hover, D. Morgan et al 1.
27-25- 9 Sallyards, Duncan & Markham 1.
1-24- 9 Marshall, Arkansas Fuel 5.
12-24- 9 Cannon, Gypsy Oil 8.
14-24- 9 Hellman, Prairie Oil & Gas 9.
22-24- 9 Hendrickson, Rogers & Revilly et al 1, 2.
27-24- 9 Mr. Marshall, Tom Miller 1.
Hill, Fontaine et al 1.
29-24- 9 Christy, Hover et al 2.
34-24- 9 Marshall, Polhamus et al 12.
6-24-10 Cartwright, Rogers et al 5, 6.
14-24-12 Filley, Houston & Okla. Oil 5.
15-24-12 Fleming, Skelly Oil 2.
16-23- 9 Teeter, Empire Gulf & Fuel 10.
1-23-10 Bell, Fisher, Louck & Moore 1.
11-23-10 Halstead, Henderson & Holden 1.
29-23-10 Thrall, Roth-Faurott & Mission Oil 36.
31-23-10 Martindale, Mid-Kansas Oil & Gas 4, 9, 10.
10-23-13 Young, Theta Oil 7.
17-23-13 Bays, Arkansas Fuel 4.
23-23-13 Hessler, Empire Gas & Fuel 5.
5-22-10 Pixley, Stark-Benson & Sharpless 1.
12-22-16 Bitler, Hazlett et al 1.
18-22-10 Browning, Rhodes & Abel 4.
19-22-10 Browning, Gillespie et al 4.
Browning, White Eagle Oil & Nelson 1.
20-22-10 Browning, Sinclair Oil & Gas 2.
30-22-10 Prather, Phillips Pet. 3.
30-22-10 Prather, Mid-Kansas Oil & Gas 3.
14-22-11 Hutchens, Empire Gas & Fuel 3.
27-22-11 Wick, Skelly & Tidal 13.
28-22-11 Clark, Gray et al 6.
Clark, Syndicate Oil 5.
32-22-11 Marshall, York State Oil 4.
Wells Shut Down
18-28- 9 Dixon, Jamison et al 3.
24-26- 9 Weir.
4-25- 9 Henley, Pure Oil 1.
19-25- 9 Ladd, Mid-Kansas Oil & Gas 4, 7.
30-25- 9 Moss, Derby Oil 11.
14-25-10 Noman, Jackson et al 1.
11-24- 9 Olsen, Transcontinental Oil 10, 11.
31-24- 9 Dorsett, Bason et al 1.
23-24-10 Edwards, Edwards et al 1.
14-24-12 Filley, Houston & Okla Oil 6.
15-23- 9 Teter, Phillips Pet. 1.
31-23-10 Martindale, Mid-Kansas Oil & Gas 8.
14-23-13 Elliott, Manhattan Oil 11.
1-22-10 Huntsinger, Day & Connell 1.
18-22-10 Hughes, Rhodes & Abel 1.
19-22-10 Browning, White Eagle Oil & Nelson 2.
18-22-11 Clopton, Cosden Oil & Gas 2.
7-22-12 Elrod, S. L. Elrod et al 1.
Rigs, 30; wells drilling, 63; total, 93.

MARION COUNTY

Rigs

15-22- 4 Barton, Orlando Oil & Gas 19.
21-21- 5 Urshel, Federal Oil 4, 5, 6.

Wells Drilling
15-22- 3 Russell, Amerada Pet. 1.
5-23- 4 Townsend, Watchorn Oil & Gas 38.
23-18- 4 Stika, Douglas & Younker 1.
Wells Shut Down
17-21- 4 Reaney, National Ref. 12.
Rigs, 4; wells drilling ,4; total, 8.

ELK-CHAUTAUQUA COUNTIES

Rigs

6-32-10 Patterson, Thompson et al 1.
13-29- 8 Hanna, Roth Burt Oil 3.
Wells Drilling
23-34- 8 Shraeder, T. B. Slick 1.
18-32-10 Coffman, Page Bros. 1.
33-32-10 Repatt, Page Bros. & McKay 1.
21-31- 9 Stiles, Tripplett, 1.
14-29- 8 Hanna, Roth et al 2.
Wells Shut Down
18-32-10 Malone, Page Bros. 1.
13-29- 8 Porter, Empire Gas & Fuel 1.
Rigs, 2; wells drilling, 7; total, 9.

MISCELLANEOUS

Barber County—
27-32-14w Elsea, B. R. Brown et al 1.
Cowley County—
10-31- 3 Shaffer, Trees Oil 1.
6-31- 6 Eastman, Southwestern Pet. 7.
6-31- 6 Eastman, Empire G. & F.
8-31- 6 Stout, Phillips Pet. 2.
6-30- 8 Manhannah, Paul Trees 2.
20-23- 3 Dora Johnson, W. Phillips et al 1.
Glasgow, W. Phillips et al 4.
19-32- 3 Foster, T. B. Slick 1.
Ellsworth County—
18-17- 7w Unknown, Duquette et al 1.
Lincoln County—
29-12-8w Rohwer, Eisenhour et al 1.
19-11-6w Stone, Scott & Collins 1.
Gove County—
23-13-26w Keys Bros. & Marine Oil 1.
2-11-26w Keys Brothers & Marine Oil 1.
Harvey County—
9-23- 2 Gantz, Frank Wahn 2.
19-22- 2 Godfrey, Stalker et al 1.
McPherson County—
29-20- 5w Lindquist, Benson et al 1.
22-19- 6w West, Carey et al 1.
9-21- 5w Barnholtz, Wolf Creek O. & G. 1.
Rush County—
18-17-17w Duquette et al 1.
Russell County—
33-12-11w Cooper, Pouder & Pomeroy 1.
9-14-15w Mermis, Prod. & Ref. 1.
13-13-14w Hill, Prairie O. & G. 1.
8-12-15w E. Oswald, Valerius O. & G. 2.
16-12-13w Beatty, Prairie 1.
13-11-12w Paspische, Sawtelle et al.
Saline County—
15-15- 4w Holinquist, Thrall et al 1.
29-14- 2w Davis, Johnson Bros. 1.
Sumner County—
16-30- 1w Hitchcock, Champlin Ref. 2.
17-30- 1w Kraft, Champlin Ref. 1.
23-34- 2 Poggett, Alcorn Oil 1.
25-33- 2 Wood, Brady Bros. 1.
Trego County—
23-13-26w Keys & Maine Pet. 1.
Wells Drilling and Shut Down
(Shut Down Wells Indicated by *)
Barber County—
33-30-14w Unknown, Wizard Oil 1.
Barton County—
22-18-13w Everleigh, Mountain States 1.
27-18-12w Sooy, Cheyenne Oil 1*.
31-18-12w S. J. Tall, Haynes 1*.
21-19-12w Unknown, McMahon et al 1.
11-16-12w Schauf, Jasper & Beschka 1*.
17-19-11w Smith, Huffine et al 1*.
Chase County—
19-21- 6 Giffith, Security O. & G. 1*.
19-19- 8 Koub, Day & Alter et al 1*.
15-22- 9 Hughes, Phillips Pet. 1.
1-19- 8 Quinn, Muncey Oil 1.
Clark County—
20-32-21w Unknown, Watchorn O. & G. 1.
Cloud County—
6- 6- 4w Unknown, Concordia O. & P. 1*.
Coffey County—
14-23-13 Elliott, Manhattan Oil 9.
Bahr, Cosien O. & G. 2.
26-19-13e White Eagle 1.
Cowley County—
18-32- 6 Harrison, Southwestern 1*.
21-32- 6 Bolack, Murphy et al 1.
6-33- 3 Allbright, W. Phillips 1.
9-33- 3 Wood, Alcorn Oil 1*.
20-33- 3 Wertman, Hill & Phillips 2, 3.
Glasco, Hill & Phillips 2, 3.
20-33- 3 Johnson, W. Phillips et al 1, 3.
34-33- 3 Shehan, Mariand Oil 1*.
29-33- 3 Hansen, Phillips & Gypsy 1.
34-33- 4 Dover, Hartman & Skaer 1.
35-30- 3 Gatz, Shawver & Tatlock 1.
32-31- 4 Brasher, Brown Brothers 1*.
24-32- 4 Deifelder, J. A. Hull 9.
24-32- 4 Kukuk, Buffalo Trust 8.
9-35- 6 Eckhardt, Phillips Pet. 1*.
18-32- 3 Dunn, Bryan & Stinson 1.
7-31- 6 Eastman, Foster & Collins 1.
10-35- 5 Warren, Trees Oil 1.
32-34- 3 Bocoston, A. Rich et al 1.
14-31- 4 Sherwood, Trees Oil 1*.
3-31- 5 Perry, Vickers Pet. 1.
18-31- 5 Shannon, Arkansas River Gas 1.
5-31- 6 Spahr, C. W. Titus et al 1*.
Spahr, Southwestern Pet. 1*.
Eastman, Empire G. & F. 1.
Eastman, Martin & Wilson 3.
6-31- 6 Eastman, Empire G. & F. 3.
Eastman, Shawver & Sutter 1.
32-31- 6 Balldue, F. L. Balliere 1.
10-30- 3 Charlton, Midwest & McNabb 2.
14-30- 4 Magnuson, S. & S. Oil 1.
31-30- 6 Robbins, Lewis Oil 2.
8-31- 6 Stout, Phillips Pet. 1*.
26-31- 3 Waite, Arkansas Fuel 1*.
10-31- 3 Urban, Trees Bros. 1.
8-31- 6 Stout, Deal & Collins 2*.
Eastman, S. & S. Oil et al 1*.
Stout, Harry Garden 1*.
17-31- 6 Harris, Boggers & Collins 1.
31-30- 6 Elliott, Lewis Oil 2.
24-30- 6 Ward, C. E. Christy et al 1.
36-32- 4 Kertley, Watchorn O. & G. 1.
35-30- 6 Wray, Rogers Brothers 1.
29-30- 5 Dunbar, Alocrn Oil 1.
18-30- 6 Bunyan, Rainey et al 1.
31-30- 6 Elliott, Titus Oil 2.
Ellis County—
18-13-17w Palifka, J. A. Harvey 1.
Finney County—
33-21-30w Ladd, C. J. Wrightsman 1.
Geary County—
30-13- 6e Foster, Marshall et al 1*.
Gove County—

5-11-26w Welsh, Keys Bros. & Marine Pet. 2*.

Graham County—
23- 8-24w Taxton, Keys Bros. 1.

Harper County—
14-33- 9w Nettingham, D. P. Fleeger 1.

Harvey County—
4-23- 2 Conway, Mason & Ralston 2.

Kingman County—
34-27- 7w Garber, Hayes et al 1*.

Lincoln County—
25-12-10w Dahl, Turman Oil 1*.
31-12-10w Lambert, Berry & Rosenthal 1.
36-11-10w Koeler, Trees Oil 1.
19-13- 9w Jellison, Amerada Pet. 1.
16-11- 7w Crawford, Amerada Pet. 1.

Lyon County—
20-20-12 Miller, Tatlock et al 1*.
24-21-11 Matlig, National Ref. & Sutter 1.

McPherson County—
26-21- 5 Theison, Ramona O. & G. 1.
35-19- 5w Bess, Rino Oil 1.
21-20- 2w Lynn, Krown & Krown 1.

Osborne County—
20-10-11w Dorman, Delhi O. & G. 1.
34-10-15w Worley, Liggett et al 1.

Osage County—
16-18-17e Shade, Smith-Page 1.

Pottawatomie County—
11-10-12 St. Mary's, Crawford et al 1*.
4-10-12 Doyle, Crawford & Jennings 1*.

Mitchell County—
10- 9- 8w Beeler, Alcorn Oil 1.

Reno County—
5-26- 4w Unknown, Travis et al 1*.
28-25- 6w O'Hallaran, Gano 1.
2-25- 6w Mohr, Jennings-Pells & Star 1.
13-23- 8w Jones, Rino O. & G. 1.
3-22- 6w Sallee, Hipple et al 1.

Rice County—
7-20- 6w Bush, Rino Oil 1*.
14-20- 6w Warnett, Prairie O. & G. 1.
35-20- 6w Miller, Prairie O. & G. 1.
35-19- 6w Been, Rino Oil 1.
1-19- 7w Deeds, Pryor & Lockhart 1.
16-21-10w Taylor, Turman Oil 1*.
21-20- 6w Barnes, Stamey et al 1.
22-18- 9w Kirby, Kaber et al 1.
10-18- 6w Walker, Jasper & Beschka 1.

Riley County—
26-10- 6 Marks, O'Neil et al 1*.

Rush County—
3-16-16w Wallace, Chas. F. Noble 1.

Russell County—
4-13-15w Walbridge, Patton et al 1.
3-13-13w Phillips, Valerius O. & G. 1.
36-15-13w Sellers, Alcorn Oil 1.
24-13-13w Harbaugh, Preston et al 1*.
1-14-11w Whitman, J. G. Buell 1.
20-12-15w Milke, S. & S. & J. Findiess.
14-12-14w Harberer, Skelly Oil 1.
36-12-13w Fairchild, Valerius Oil et al 1.
11-12-12w Unknown, Skelly Oil et al 1.
8-12-15w Oswald, Derby Oil et al 1.
17-12-15w Oswald, Valerius O. & G. 3, 4.
Oswald, Valerius O. & G. 1.
23-12-11w Dick, Richey & Moore 1.
33-12-11w Cooper, Pounder & Pomeroy 1.
24-12-15w Haise, Prod. & Ref. 1.
31-21-14w Haise, Lewis Oil 1.
29-11-15w Sutton, Findiess, S. & S. 1.

Sedgwick County—
2-29- 2 Fleming, Higgins et al 1*.
29-29- 2 Hunsacker, Hartman-Skaer et al 1*.
27-29- 1 Fleshman, Cosden O. & G. 1.
27-27- 4w Tuielmeyer, Cole & Neff 1.
34-26- 1 Tjaden, Wichita O. & G. 1*.

Seward County—
34-34-34w Wood, Defender O. & G. 1*.
20-33-33w Seely, Seward Oil 1*.

Stafford County—
23-21-11w Cooper et al 1.

Sumner County—
34-34- 1w Johnson, Shawver et al 1.
3-35- 2e Shryock, Prairie O. & G. 1.
29-34-2e Work, Phillips Pet. 1.
8-33- 3w Felt, Phillips Pet. 1.
8-30- 3 Stubbs, Parkins et al 1.
29-32- 2 Veoli, Phillips Pet. 1.
1-33- 1w Raurey, Tidal Oil 1.
29-34- 2e Work, Phillips Pet. 1.
27-32- 2w Brumwest, Phillips Pet. 1.
12-31- 1w Stewart, Phillips Pet. 1*.
34-30- 1w Conn, Champlin 1.
16-30- 1w Hitchcock, Champlin Ref. 1.

Trego County—
16-11-24w Keys Brothers & Marine Pet. 1.
9-11-22w Unknown, Mississippi Valley Oil 1.

Washington County—
Rigs, 30; wells drilling, 147; total, 177.

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Navarro	53	19,526	10	1	16	46	62
Miscellaneous	1	.....	1	0	7	40	47
Total July	54	19,526	11	1	23	86	109
Total June	27	4,260	13	0	13	104	117
Difference	27	15,266	2	1	10	18	8

WELLS COMPLETED
NAVARRO COUNTY

Powell Field—
McKie, Gulf Prod. Co. 3-A ..... gas
McKie, Roxana Pet. Corp. 9 ..... dry
McKie, Roxana Pet. Corp. 10-A 180
McKie, Kirby Pet. Co. 5 110
I. N. Cerf, E. L. Smith Oil Co. 5 280
Ramsey, Tidal Oil 11-A 30
Ramsey, Tidal Oil 7-C 90
Kent, Texas-Magnolia 22 25
Allen, Garland Kent 1 ..... dry
J. F. & L. Allen, Garland Kent 1 ..... dry
Harvard, Birdwell & Gray 1 35
Boyd, Davis & Spears 2 45
Boyd, Garland Kent 1 75
Boyd, Garland Kent 2 40
Boyd, Garland Kent 3 45
Ross, Simms Oil 15 20
Keith, Skelly Oil 9 1250
Bressie, Tidal Oil 4 40
Phillips, Tidal Oil 13 60

Currie District—
Longbotham, Snowden & McSweeney 10 dry
Morris, Trapshooter Reilly 1 ..... dry
M. Bounds, Humphreys Oil 8 ..... dry
Evans Brothers Oil 1 ..... dry

Richland Field—
Morgan, Esslick et al 1 ..... dry
Swink, Langley et al 1 50
Swink, Atlantic O. P. Co. 1 800
Webb, Boyd Oil Co. 5 396
Webb, Boyd Oil 4 400
Webb, Boyd Oil 5 425
Webb, Boyd Oil 6 900
Webb, Boyd Oil 7 450
Allison, Godley Oil 4 700
Allison, Godley Oil 5 450
Swink, Gutman et al 1 ..... dry
Webb, Hallmack Oil 1 215
Webb, Hallmack Oil 2 300
Webb, Hallmack Oil 3 400
Webb, Hallmack Oil 4 450
Sheffield, Humble O. & R. 1 400
Davis, Rowan et al 1 225
Brown, Sun Oil Co. 3 350
Brown, Sun Oil Co. 4 350
Brown, Sun Oil Co. 5 475
Brown, Sun Oil Co. 6 350
Brown, Sun Oil Co. 7 3250
W. F. Brown, Sun Oil Co. 2 2865
Davis, Stroube & Stroube 1 300
Allison, Simms Oil 1 750
Davis, Tucker et al 1 1600
Hillburn, G. Moore 1 ..... dry
Davis, Oxford Oil 1 350

Miscellaneous—
Trammell, Cranfill & Penn 1 ..... dry
Skiles, G. Johnson 1 ..... dry

Wells completed	53
Production	19,526
Dry	12
Gas	1
Gas production	7,000,000

MISCELLANEOUS

Hopkins County—
Coppedge, Marland Oil 1 ..... dry

Wells completed	1
Dry	1

NAVARRO COUNTY

Rigs
Ramsey, Tidal Oil 10-B.
Woolens, Brabdon & McCamey 3.
Kent, The Texas Co. and Magnolia Pet. 23.
Boyd, Smith et al 1.
Richards, Atlantic O. P. Co. 2.
Webb, Boyd Oil 8.
West, Cranfill & Penn and Shamrock Oil 1.
Davis, Derby Oil 2.
Allison, Godley Oil 9.
West, C. I. Moore 1.
Davis, Oxford Oil 5-A, 6-A.
Davis, Rowan et al 2.
Brown, Sun Oil 11.
Allison, Simms Oil 15.

Wells Drilling
Davis, Tucker et al 16.
Roberts, A. Patrick et al 1.
McGowan, Boyd Oil Co. 1, 2.
Chapman, McMan Oil Co. 8.
Springfield, Witherspoon et al 1.
McKie, Pure Oil Co. 64, 65.
Calling, Simms Oil Co.
Hill, Elliott et al 3, 5.
Alexander, McIntyre et al 1.
B. F. Dill, Simms Oil Co. 1.
Rose, Simms Oil Co. 14.
Williamson, Andrews Pet. Co. 2.
Boyd, J. K. Hughes Dev. Co. 1.
Boyd, J. K. Hughes et al 2.
Woolens, D. F. Hughes 1.
Boyd, G. Kent B-1.
Goldman, Neeney & Smith 50-AC 1.
W. D. Coleman, Simms Oil Co. 1.
Thornton, Ranger Vindicator 1.
Allison, Boyd Oil Co. 1.
Fsg Club, Collins et al 1.
A. N. Brown, Moore & Hamil 1.
A. N. Brown, McDonald et al 3.
Brown, McDonald et al 4.
Graves, McDonald et al 1.
Green, R. Smith et al 1.
Gren, McDonald et al 1.
Mrs. Richards, McIntyre et al 1.
Allison, Godley Oil Co. 7, 8.
Elkin, Gulf Prod. Co. 1.
Elkin, Gulf Prod. Co. 7.
West, J. K. Hughes Oil Co. 4.
R. Davis, E. C. Meade et al 1.
Swink, Miller Lewis 1.
Davis, Miller Lewis 2-A.
Davis, Miller Lewis 2.
Davis, Miller Lewis 3.
Brown, Sun Co. 1.
Brown, Sun Co. 8.
Brown, Sun Co. 10.
Davis, Tucker et al 3.
Davis, Tucker & Fox 2.
Davis, Wallace et al 1.
Rigs, 16; wells drilling, 46; total, 62.

MISCELLANEOUS

Rigs

Anderson County—
Turner, Hughes et al 1.

Cass County—
Spears, Bankers Trust Co. 1.
Caster, Gibbs Pet. Co. 1.

Falls County—
Jennings, Inland Oil Co. 1.

Hopkins County—
McClure, Bar Tex Drilling Co. 1.

Hunt County—
Barnett, Tullall and Kelsey 1.

Van Zandt County—
Greer, Marland Oil Co. 1.

Wells Drilling

Anderson County—
Parker, Williams et al 1.
Brooks & Auld, Rosser et al 1.
Morning Plant, Palestine Oil & Gas 1.

Bowie County—
Parker, Dalby Springs 1.
Rochelle, Delaney Oil & Gas Co. 1.
Le Fort, Moslo Oil & Gas 2.
Taylor, Tri State Oil 1.

Cass County—
Evans, Caldwell et al 1.

Cherokee County—
Clapp, Collington Drilling Co. 1.

Delta County—
Patrick, J. E. McNeill 1.

Franklin County—
Harber, J. E. McNeill et al 1.

Falls County—
Peacock, High Banks Oil Co.
Pride, Halto Tex Co. 1.
Harlin, Texola Pet. Co. 1.
Clark, Pearce Pet. Co. 1.
Covington, May Flower et al 1.
Brown, Edwards et al 1.

Freestone County—
Bonds, Trapshooter Reilly 1.
Bonds, Brothers Oil Co. 7.

Henderson County—
Bonds, F. Haynes 1.
Eade, Richardson Brothers 1.

Hopkins County—
Enix, The Texas Co. 1.
Brooks, Kelsey et al 1.

Kaufman County—
Kirby, Germany et al 1.
Barrlows, Skinner and Lyles.

Leon County—
McKinnon, Kechi Oil Association 2.
Baldon, Leon Co. Oil Dev. Co. 1.

Leon County—
Smith, Deep Springs Oil Co. 1.
Carrington, Mexia Marquest Oil 1.

Limestone County—
Roach, Trout' et al 1.

Rains County—
Dowell, McLaughlin & Lylas.

Red River County—
Dinviddie, Brewer Rines 1.
Simpson, Clarksville Tex Oil 1.
Arnold, Isabelle Gibson 1.
Antone, Johnson Pet. Co. 1.
Wortham, O'Bannon Bros. 1.
Garland, Rogging Oil Co. 1.

Van Zandt County—
Jones, Mexia Drilling Co. 1.
Dunbar, Terrell Oil Corp. 1.

Wood County—
Senter, The Texas Co. 1.
Rigs, 7; drilling, 40; total, 47.

NORTH CENTRAL TEXAS

Summary of Wells Completed

District—	Comp.	Prod.	Dry	Gas
Wichita	59	4,310	18	0
Burkburnett	20	290	9	0
Eastland	25	230	11	3
Stephens County	21	1,560	3	1
Young	9	45	7	0
Archer County	122	6,045	44	0
Wildcats	57	2,730	30	6
Total July	313	15,210	122	10
Total June	339	21,907	110	8
Difference	26	6,697	12	2

Summary of New Operations

District—	Rigs	Drg.	Ttl.
Wichita-Wilbarger	14	63	77
Burkburnett	3	4	6
Eastland	2	21	23
Stephens	10	59	69
Young	4	16	20
Archer	15	49	64
Wildcats	24	81	105
Total July	71	293	364
Tetal June	109	387	496
Difference	38	94	132

WELLS COMPLETED
WICHITA-ELECTRA

Burnett, Humble O. & R. Co. 2-B 20
McCarty, Lanning et al 4 25
Burnett, Maer et al 1 240
Burnett, John O'Neil 1 35
Burnett, Texhoma O. & R. Co. 5-A ..... dry
McCarty, Underwood Drg. Co. 2 145
Jennings, United Prod. Co. 4 30
Waggoner, Waggoner et al 1 ..... dry
Fassett, Dr. Wallace 1 ..... dry
Hoge, Jones et al ..... dry
Allen, Petroleum Prod. Co. 2-A 155
Jennings, Apple et al 1-B 20
Douglass, Camp. O. & G. Co. 10-B 150
Waggoner, Culbertson et al 25 50
Jennings, Gulf Prod. Co. 10 70
Nance, Ryan Pet. Co. 20 320
McCarty, Underwood Drg. Co. 3 ..... dry
Jackson, Chenault et al 2-B ..... dry
Allen, Cline Oil Co. 1 ..... dry
Avis, Gherke et al 1 ..... dry
Allen, Humble O. & R. Co. 1 65
Allen, Pet. Prod. Co. 1-A 20
Skinner, The Texas Co. 42 10
Jennings, Apple et al 4 45
Burnett, Burnett Ranch O. Co. 220
Fisher, Carter et al 4 35
Douglass, Humble O. & G. Co. 16-A 150
McCarty, Panhandle O. & R. Co. 4 5
Waggoner, Rio Bravo Oil Co. 7-E 120
Burnett, Section Two Oil Co. 1 245
Pouch, United Prod. Co. 3 60
Bassett, Wallace et al 2 ..... dry
Mrs. Murray, Electra Gulf Oil Co. 3 250
Mrs. Murray, Electra Gulf Oil Co. 5 150
Allen, Petroleum Prod. Co. 3-A 40
Waggoner, Cook et al 5 25
Douglass, Buffalo Tex Co. 5-B 5
Fisher, Evans et al 1 15
Waggoner, Gulf Prod. Co. 2-J 15
Waggoner, Magnolia Pet. Co. 2 ..... dry
McCarty, Panhandle O. & R. Co. 5 20
Nance, Ryan Pet. Co. 21 200
Burnett, Texhoma O. & R. Co. 2-D 15
Nance, United Central Oil Corp. 1 150
Allen, K M A Oil Co. 1 ..... dry
Newton, Petroleum Prod. Co. 2 ..... dry
Maer, Underwood Drg. Co. 3 225
Burnett, Carter et al 1 ..... dry
Waggoner, Humble O. & R. Co. 1-C ..... dry
Burnett, Humble O. & R. Co. 3-B ..... dry
Gibson, Keltz et al 1 ..... dry
Waggoner, Kruger et al 9-A ..... dry
Burnett, John O'Neill et al 2 ..... dry
Burnett, Texhoma O. & R. Co. 4-C 200
Burnett, Texhoma O. & R. Co. 5-C 145
McCarty, United Central Oil Corp. 6 200
Peeler, Gardner et al 1 310
Overby, Hill et al 7 35
Allen, Moore et al 2 75

Wells completed	59
Dry	18
Production	4310

BURKBURNETT-HIRSCHI

Donohoe, Couch et al 2 35
Daniels, Grace Oil Co. 2-B 5
Martin, Gulf Prod. Co. 2 ..... dry
Langford, Langford et al 9 70
Dodson, Magnolia Pet. Co. 13 5
Surrein, Humble O. & R. Co. 29 20
Ward, Clark et al 7-A 35
Fee, Langford et al 10 30
Roller, Oil Investment Co. 1 ..... dry
Foster, Burk Cameron Oil Co. 10 ..... dry
Bailey, Hunter et al 2 5
Fowler, McClure et al 1 ..... dry
Dale, Tidwell et al 1 ..... dry
Roberts, Constantine Ref Co. 1 ..... dry
Donohoe, Couch et al 3 30
Daniels, Grace Oil Co. 3-B 20
Ruyle, Harvey Oil Co. 20 ..... dry
Musgrave, Hunter et al 1 ..... dry
Treece, Magnolia Pet. Co. 6 35
Potter, McDabb Oil Co. 3 ..... dry

Wells completed	30
Dry	9
Production	290

ARCHER COUNTY

Wilson, Atlantic O. & P. Co. 1-A 31
Wilson, Atlantic O. & P. Co. 5-A 31
White, Comet Petroleum Co. 1 15
Ferguson, Darr et al 1 31
White, Donovan et al 2 ..... dry
White, Donovan et al 3 ..... dry
Parrish, Franklin et al 4 ..... dry
Parrish, Franklin et al 7 61
Wilson, Griswold Oil Co. 4 75
Nichols, Gulf Prod. Co. 3 31
Nichols, Gulf Prod. Co. 4 31
Siegle, Gulf Prod. Co. 1 31
Mrs. Carter, Hawkins et al 5 31
K. & K., Hill et al 1 ..... dry
Wilson, Humble O. & R. Co. ..... dry
Wilson, Jones Oil Co. 9 140
Wilson, Kentucky Oil Corp. 15 31
Brown, Murchison et al 1 ..... dry
Coody, Murchison et al 2 ..... dry
White, Murchison et al 2-B ..... dry
Orton, Panhandle Ref. Co. 1 31
Wilson, Riner & Bailey 6 180
Wilson, Riner & Bailey 8 175
Wilson, Stock et al 1 ..... dry
Hazlewood, Strong et al 1 ..... dry
Daume, Tarver Oil Co. 2 ..... dry
Wilson, Verschoyle et al 7-B 61
Wilson, Woodburn Oil Corp., 2-B 31
Ambercrombie, The Texas Co. 1 ..... dry
Graham, The Texas Co. 1 180
Wilson, Atlantic Oil Co. 2-A ..... dry
Wilson, Atlantic Oil Co. 8-A 190
Wilson, Bridwell et al 2 155
Richardson, Chenault et al 8 1
Wilson, Chenault et al 4 ..... dry
Turbeville, Clark et al 1 31
Crawford, Corlett et al 1 ..... dry
Parkey, Crump et al 1 ..... dry
Wilson, Empire G. & F. Co. 17-C 300
White, Fausett et al 1 ..... dry
Parrish, Franklin et al 5 31
Parrish, Franklin et al 6 31
Wilson, Griswold Oil Co. 5-F 155
Siegle, Gulf Prod. Co. 2 31
Carter, Hawkins et al 6 31
Coffield, Magnolia Pet. Co. 3 61
Rutty, Murchison et al 1 340
White, Murchison et al 1-B ..... dry
White, Pace et al 1 ..... dry
White, Pace et al 1 31
Wilson, Prairie O. & G. Co. 7-A 31
Nichols, R. and F. Oil Co. 1 155
Campbell, Richards et al 1 ..... dry
Turbeville, Southwestern O. & R. Co. 1 ..... dry
Wilson, Woodburn Oil Corp. 3-B 31
Wilson, Woodburn Oil Corp. 6-B 31
Kennedy, Young Bros. 1 ..... dry
Key, The Texas Co. 1 ..... dry
Robertson, Archer Oil Corp. 2 61
White, Baldwin et al 1 ..... dry
Wilson, Bridwell et al 5-F 75
White, Carter et al 1 91
White, Day et al 3 61
Wilson, Empire G. & F. Co. 16-C 155
Wilson, Empire G. & F. Co. 18 180
Parrish, Franklin et al 8 155
Parrish, Franklin et al 10 155
Jones, Humble O. & R. Co. 1 ..... dry
Wilson, Humble O. & R. Co. 2 30
White, Humphrey et al 2 150
Miller, Johnson et al 1 ..... dry
Wilson, Jones Oil Co. 10 61
Wilson, Jones et al 1 ..... dry
Waggoner, Kentucky Oil Corp. 1 ..... dry
Turbeville, Major Oil Co. 3 5
Wilson, McCarty Oil Co. 2-B 75
Wilson, Moore et al 2 ..... dry
Parrish, Murchison et al 1 ..... dry
Richardson, Murchison et al 2 61
White, Murchison et al 3 91
Wilson, Oil Investment Co. 1 ..... dry
Perkins, Panhandle Ref. Co. 1 ..... dry
Ward, Sheldon et al 1 ..... dry
Wilson, Staley et al 6-C 155
Farmer, Sun Oil Co. 5 60
Wilson, White Oil Corp. 2 ..... dry
Wilson, Woodburn Oil Corp. 7-E 15
Parrish, Atlantic O. & P. Co. 3 180
Parrish, Atlantic O. & P. Co. 4 110
Coffield, Burns et al 1 ..... dry
Wilson, Camp O. & G. Co. 11 61
White, Comet Pet Co. 2 46
Parrish, Franklin et al 9 ..... dry
Wilson, Graham et al 5-B 61
Wilson, Griswold Oil Co. 2-D ..... dry
Wilson, Griswold Oil Co. 6-F 31
Wilson, Griswold Oil Co. 7-F 31
Wilson, Humble O. & R. Co. 3 31
Rutty, Jones et al 1 ..... dry
Wilson, McCarty Oil Co. 3-B 31
Wilson, Miller Bros. 1 31
White, Murchison et al 1 ..... dry
Rutty, Murchison et al 2 180
Rutty, Murchison et al 3 61
Farmer, Brader and others 1 ..... dry
Mask, Cato and others 1 ..... dry
Hawkins, Creath and others 1 ..... dry
Ferguson, Dilliday and others 1 ..... dry
Wilson, Hill and others 1 ..... dry
Orton, Humble O. & R. Co. 1 ..... dry
Wilson, Kentucky Oil Corp 1 ..... dry
Porter, Kinney and others 1 ..... dry
Ragle, Knight & Hines 2 61
White, Murchison and others 4-B 31
White, Murchison and others 1 91
Orton, Panhandle O. & R. Co. 2300
Wilson, Prairie O. & G. Co. 8-E 31
Farmer, Scott and others 3 31
Carter, Tucker and others 4 31
Merurer, Winam and others 1 ..... dry
Wilson, Woodburn O. Corp 9-B 31

Wells completed	133
Dry	44
Production	6946

YOUNG COUNTY

Stowe, Ingle Brothers 1 ..... dry
Kemp, Peter O. Co. 6 15
Graha, Bashara and others 1 ..... dry
Eagan, Eagle Creek Oil Co. 1 ..... dry
Benson, Nine Hundred Oil Co. 2 15
Mahoney, Byrens and others 1 ..... dry
McMillan, Hinson and others 1 ..... dry
Carter, McGuire and others 1 ..... dry
Simmons, Seaboard O. & G. Co. 5 ..... dry

Wells completed	7
Dry	1
Production	46

STEPHENS COUNTY

Echols, Rochelle and others 1 100
Wallace, Empire Gas & Fuel Co. 7 15
Jones, Haile and others 5 135
Bruce, Mahistedt & Mook 3 ..... dry
Harmon, Quaking Petroleum Co. 9 ..... dry
Herrington, Swensondale Oil Co. 300
Lee, Mid-Kansas Oil & Gas Co. 2 15
Hamil, Raney and others 1 ..... dry
Dunlap, Atlantic Oil Co. 6 800

Bruce, Price and others 3 10
Parks, The Texas Co. 3-A 25
Henderson, Walker & Waldwell 1 180
Williams, Curry Pool Oil Co. 1 45
Carey, Sun Oil Co. 9-A 15
Keithley, The Texas Co. 8 35
Cobb, Critten and others 3 1230
Hill, Mid-Kansas Oil & Gas Co. 12-A.. 30
Veale, Prairie Oil & Gas Co. 8-C 135
W. & C., Walker & Caldwell 10 25
McCleskey, Brown and others 1 ..... dry
Sandidge, Welch and others 1 ..... dry

Wells completed 21
Dry 3
Gas 1
Production 1560
Gas production 1,000,000

EASTLAND COUNTY

Sneed, Humble Oil & Ref. Co. 2 80
Hunt, McLester and others 1 ..... dry
Hightower, Panhandle Oil & Ref. Co. 19 30
Sneed, Republic Prod. Co. 1 20
Scott, Teatsorth and others 1 5
Amis, Clayton and others 1 ..... gas
Fox, Allison and others 1 ..... dry
Edison, Magnolia Pet. Co. 3 20
Hatton, Burkett and others 1 20
Wheeler, Donnelley Bros. 1 15
Ross, Flaherty and others 1 ..... gas
Hunt, McLester and others 2 ..... dry
Casey, Mook Oil Co. 1 ..... gas
Steele, Turner and others 1 ..... dry
Fox, Williamson and others 2 ..... dry
Ainsworth, Parsons and others 1 ..... dry
Lyeris, Root and others 1 ..... dry
Neal, Shannon and others 4 5
Hise, States Oil Corp 4 5
Simmons, Knox-Lewis Oil Co. 1 ..... dry
Hightower, Panhandle O. & R. Co. 20.. dry
Webb, Panhandle Oil & Ref. Co. 7 .. dry
Hague, Pardee and others 1 ..... dry
Sneed, Republic Prod. Co. 2 10
Hines, Lowe and others 4 20

Wells completed 25
Dry 11
Gas 3
Production 230
Gas production 20,500,000

WILDCATS

Baylor County—
Wallace, Sunshine State O. & R. Co. 1 dry
Parker, Staley and others 1 ..... dry
Throckmorton County—
Richards, Divine and others 1 ..... dry
Lee, Hale Tex Oil Co., 1 ..... dry
Woods, Hale Tex Oil Co., 2 ..... dry
Portoow, Maer and others 1 ..... dry
Childress County—
Givens, Anderson and others 1 ..... dry
Erath County—
Laney, Paschell and others 2 ..... dry
Martin, Marshall and others 1 ..... dry
Callahan County—
Moore, Dudley and others 1 30
Ackers, Moore and others 6 ..... dry
Anderson, Poe and Wilson 2 ..... dry
Bryson, Poe and Wilson 3 ..... dry
Jones, Schaffner and others 2 ..... dry
Isenhower, Seaboard O. & G. Co. 3-B.. 20
Kile, Root and others, 1 ..... dry
Isenhower, Seaboard O. & G. Co., 4-B.. 20
Cathey, Tidal Oil Co. 3 20
Isenhower, McCree and others 1 ..... dry
Cathey, Sherrin and others 3 35
Mitchell County—
Smart, Sloan and others 4 150
Butler, California Co., 1 85
Smart, Sloan and others 5 200
Potter County—
Bivens, Producers & Ref. Co. 1-A ..... gas
Howard County—
Quinn, Big Springs Oil Co. 1 ..... dry
Reagan County—
University, Big Lake Oil Co. ..8..... 30
University, Big Lake Oil Co. 9 1200
University, Big Lake Oil Co. 10 1450
Clay County—
Worsham, Gulf Prod. Co. 3 ..... dry
Panhandle, Lone Star Gas Co. 8 ..... gas
Boddy, Gulf Prod. Co. 1-A ..... dry
Baner, Knox Finley Dev. Co. 6..... 10
Palo Pinto County—
Robinson, Republic Prod. Co. 1 ..... dry
Robinson, Texas Pacific C. & O. Co. 11 5
Wall, Cogwell and others 1 ..... dry
Boles, Moore & Snebold 2 ..... gas
River Bed, Scott and others 1 ..... dry
Shackelford County—
Elliott, Hale-Tex Oil Co. 1 ..... dry
Knox County—
Ward, Roehl and others 1 ..... dry
Montague County—
Benton, Gulf Prod. Co. 1 ..... dry
Loy, Humphreys Oil Co. 1 ..... gas
Hutchinson County—
Weatherley, Plains Oil Co. 1 ..... gas
Cable, Watchorn Oil Co. 1-A ..... dry
Sandford, Coline Oil Co. 1 50
King County—
Hailey, Banks and others 1 ..... dry
Brown County—
Pickett, Cullinan and others 1 30
Windham, Infield Pet. Co. 5 25
Newton, Mahlstedt & Mook Oil Co. 1.. 90
Wright, Stone and others 1 ..... dry
Williams, Brownwood Petroleum Co. 9 20
Newton, Canyon O. & G. Co. 2..... dry
Newton, Patterson and others 1 .... gas
Newton, Mendenhall and others 1 ... 30
Tarrant County—
Day, Tippitt and others 1 ..... dry
Coleman County—
Overall, Roth and others 8 ..... dry
Gray, Gray and others 1 15
Carson County—
Burnett, The Texas Co. 3 300

Wells completed 57
Dry 30
Gas 6
Production 2730
Gas production 46,000,000

WICHITA AND WILBARGER COUNTIES
Rigs
Reis, Burton and others 1.
Burnett, Burnett Ranch Oil Co. 5.
Pierce, Empire Gas & Fuel Co. 4.
Waggoner, Eureka Prod. Co. 11.
Fassett, Ferguson and others 1.
Waggoner, Gwynn and others 1.
Allingham, Hereford Oil Co. 12.
Fisher, Meyers and others 1.
Waggoner, Magnolia Petroleum Co. 7.
Nance, Ryan Petroleum Co. 23, 24.
McCarty, United Central Oil Corp. 9.
Hodges, Carter and others 1.
H. & T. C., Magnolia Pet. Co.
Wells Drilling
Waggoner, The Texas Co. 294.
Wigley, Adams and others 1.
Burnett, Burnett Ranch Oil Co. 3, 4.
Waggoner, Clopton and others 1.
Douglas, Camp Oil & Gas Co. 11-B.
Jeff Waggoner, Culbertson and others 26.
Jennings, Douglas and others 2-A.
Pierce, Empire Gas & Fuel Co. 5.
Burnett, Evangeline Petroleum Co. 1. ...
Miller, Gulf Prod. Co. 61.
Burnett, Gulf Prod. Co. 22-A, 23-A, 24-A.
Collett, Gulf Prod. Co., 9.
Burnett, Hammond and others 1.
Burnett, Howell and others 1.
Blagg, Jackson and others 1.
Jeff Waggoner, Jaffee and others 1.
Burnett, Kentucky Oil Corp. 1.
McCarty, Lee and others 1
Jeff Waggoner, Magnolia Petroleum Co. 6.
W. T. Waggoner, Magnolia Pet. Co. 36-A, 37-A, 38-A, 3-C.
Burnett, John O'Neil, 3.
McCarty, Panhandle Oil & Ref. Co. 6.
Nance, Ryan Pet. Co. 22.
Waggoner, Rio Bravo Oil Co. 7-E.
McCarty, Shaw and others 2.
Burnett, Stacy and others 1-B.
Burnett, Section Two Oil Co. 2.
Burnett, Texhoma O. & R. Co., 6-C, 7-C, 8-C.
Burnett, Texhoma and Perkins 1.
McCarty, United Central Oil Corp. 7, 8.
Fassett, Dr. Wallace 3.
Peeler, Darr and others 5.
Chilson, Campbell and others 1.
Allen, Cline Oil Co. 1-B.
Maer, Church and others 2.
Mangold, Dee and others 1.
Mrs. Murray, Electra Gulf Oil Co. 4, 6.
Rhodes, Gulf Prod. Co. 1.
Allen, Moore and others 3.
Love, Parker Brothers 1.
Allen, Petroleum Prod. Co. 4-A.
Maer, Petroleum Prod. Co. 3, 4.
Maer, Underwood Dig. Co. 4.
Mrs Murray, United Central Oil Corp. 1.
Wilbarger County—
Morris, Barker and others 1.
Dill, Dill Farm Oil Co. 1.
Stephens, Dumas and others 1.
Castleberry, Herring and others 1.
Sumner, Magnolia Pet. Co. 45.
Waggoner, Noble Oil Co. 1.
Davis, Pigg and others 1.
Richardson, South Vernon Oil Co. 1.
Wells drilling, 63; rigs, 14; total, 77.

BURKBURNETT-HIRSCHI
Rigs
Treece, Magnolia Pet. Co. 7.
Sheldon, Sheldon and others 4.
Wells Drilling
Kennedy, Baldwin Bros. 16-C.
Beach, Magnolia Petroleum Co. 6.
Rexford, Texhoma Oil & Ref. Co. 1-B.
Donohoo, White and others 1.
Wells, drilling, 4; Rigs, 2; total, 6.

ARCHER COUNTY
Rigs
Turbeville, Cline and others 1.
Lyles, Carter and others 1.
Hawkins, Daniels and others 1.
Ragle, Knight and others 4.
Oil Investment Co., Landreth Prod. Co. 1.
Marwitz, Lanning and others 1.
Wilson, Murchison and others 1.
Pridean, Nickelson and others 1.
Orton, Norwood and others 1.
White, Pace and others 1.
Richardson, Shamrock Oil Co. 2-C, 6-D.
Harbison, Shamrock Oil Co. 8.
Coffield, Tucker and others 1.
School land, Vance and others 1.
Wells Drilling
Schlimpf, Alford and others 1.
White, Allen and others 1.
Graham, Andrade and others 1.
Farmer, Archer Oil Corp. 2.
Wilson, Bridwell and others 7-F.
Kelly, Buie Prod. Co. 1.
Wilson, Camp Oil & Gas Co. 2-B.
Jackson, Cannon and others 1.
Wilson, Carey Drilling Co. 4.
Andrews, Chambers and others 1-B.
Turbeville, Clark and others 2.
Andrews, Dee Bros. 1.
White, Dixon and others 3.
Wilson, Donohoo and others 4.
Parrish, Franklin and others 11.
Siegel, Gulf Production Co. 3.
Turbeville, Hart and others 1.
Wright, Hobbs and others 1.
Wilson, Holmes and others 1.
White Humphrey and others 3.
Parrish, Jefferies and others 1.
Perkins, Kimbrew and others 3, 4.
Ragle, Knight and others 3.
Turbeville, Landreth Prod. Co. 1.
Harbison, Lowrey and others 1.
Wilson, Mahlstedt and Mook 3.
Robertson, Magnolia Pet. Co. 2.
Turbeville, Major Oil Co. 4.
Richardson, McClain and others 1.
Wilson, McPhail and others 1.
Zotz, Nantz Oil Co. 1.
Graham, Norton and others 2.
Robertson, Oil Investment Co. 1.
Orton, Panhandle Oil & Ref. Co. 3.
Chancellor, Waite Phillips 1.
Ford, Waite Phillips 1.
Wilson, Waite Phillips 1.
Wilson, Prairie Oil & Gas Co. 9-E.
Richardson, Shamrock Oil Co. 8-B, 4-D, 5-D.
Albright, Sheppard and others 1.
Nichols, Simms Oil Corp. 1.
Key, Sunshine State O. & R. Co. 1.
Kinder, Superior Oil Co. 1.
K. & K., Texhoma and others 4.
White, Tex-O-Kan Oil Co. 1.
Wilson, Woodbury Oil Corp. 8.
Wells drilling, 49; rigs, 15; total, 64.

YOUNG COUNTY
Rigs
Mayes, Burton and others 1.
Cheeves, Eagle Creek Oil Co. 1.
Johnson, Herbert Oil Co. 1.
Durham, McClain and others 1.
Wells Drilling
Graham, Bashara and others 1-C.
Rubinkoenig, Carter and others 1.
Johnson, Dunn and others 1.
Mahoney, Foster and others 2.
Graham, Humble Oil & Ref. Co. 1.
Bashara, Keener Oil & Gas Co. 1.
Hulse, Logan and others 1.
Johnson, McCarr and others 1.
Scarborough, McCarr and others 1.
Hume, Miller and others 1.
Vaughn, Monroe Prod. Co. 1.
Driver, Mutual Oil Co. 12.
Simms, Peter Oil Co. 1.
Graham, Reed and others 1.
Fee, States Oil Corp. 1.
Keithley, Union Oil Co. 1-A.
Wells drilling, 16; rigs, 4; total, 20.

STEPHENS COUNTY
Rigs
Corbett, Cox Consolidate Oil Co. 2.
Cobb, Critten and others 6, 7.
Lowe, Mid-Kansas Oil & Gas Co. 3
Echols, Swensondale Oil Co. 1.
McClure, Barnhart and others 1.
Gardenshire, Christie Bros. 1.
Henderson, Scott and others 1.
Rogers, Texas Pacific Coal & Oil Co 7.
Williams, Thompson Oil Co. 4.
Wells Drilling
Hudspeth, Brown and others 1.
Cobb, Critten and others 5.
Cunningham, Critten and others 2, 3.
Cunningham, Glasscock Prod. Co. 1.
Martin, Ivan Pet. Co. 2.
Brown, Liner and others 1.
Hudspeth, Marchbanks and others 1.
Hill, Mid-Kansas Oil & Gas Co. 5, 13, 14.
Lowe, Mid-Kansas Oil & Gas Co. 2, 3, 4.
Richardson, Mid-Kansas O. & G. Co. 2
Atkins, Prairie Oil & Gas Co. 15.
Caldwell, Prairie Oil & Gas Co. 1.
W. & C., Raney-Buckeye Oil Co. 2.
Sweeney, Rochelle and others 2-A, 3-A.
Black, Texas Co. 20.
Rogers, T. P. C. & O. Co. 5, 6.
Walker, Walker and others 1, 2.
Cobb, Weekly Petroleum Co. 1.
Crowley, Baker and others 1.
McCleskey, Fouts and others 1.
Jones, Halle and others 2.
Jones, Humbie Oil & Ref. Co. 2
McCleskey, Ice and others 1.
Drake, Little and others 2.
Brown, Magnolia Pet. Co. 5, 6, 9.
Gardner, Magnolia Pet. Co. 1, 2.
Stoke, Magnolia Pet. Co. 7.
Taylor, Magnolia Pet. Co. 1.
Williams, Pearson and others 2.
Jones, Pennok Oil Co. 1-B.
Stoker, Pitter and others 1.
Stoker, Prairie Oil & Gas Co. 1.
Jones, Republic Oil Co. 4.
Davis, Scott and others 1.
McCleskey, Seaboard Oil & Gas Co. 1.
Henderson, Sinclair O. & G. Co. 9.
Jones, Snowden & McSweeney 1, 11.
Sikes, States Oil Corp. 1.
Williamson, States Oil Corp 1.
Boone, Sun Co., 2.
Houston, Swensondale Oil Co. 1.
Heathley, The Texas Co. 8, 10.
Parks, The Texas Co. 40-A.
Cooke, Texas Fidelity Oil Co. 1.
Haines, Texas Pacific Coal & Oil Co. 1.
Winston, Texas Pacific Coal & Oil Co. 1-B.
Adams, Triplehorn Pet. Ass'n 1.
Newman, Walker and others 1.
Wells drilling, 59; rigs, 10; total, 69.

EASTLAND COUNTY
Langford, Carter and others 4.
McDonald, Grisham and others 1.
Wells Drilling
Dawson, Adams and others 1.
Gilbert, Andrade and others 1-A.
Foster, Buffington and others 1.
Waggoner, the Dixie Oil Co. 1.
Wright, Barkley and others 1.
Howard, Haynes and others 1.
Sneed, Humble Oil & Ref. Co. 3, 4.
Young, Kirk & Brewer 1.
Gaily, McLester and others 1.
Harrell, Mid-Kansas Oil & Gas Co. 6.
Moles, Parsons and others 1.
Parton, Pennok Oil Co. 7.
Wheeler, Root and others 1.
Amis, Bobo and others 1.
Sneed, Continental Oil Co. 1.
Stubblefield, Donnelly Bros. 1.
White, McBride and others 1.
Ramsey, The Texas Co. 1.
Rushing, Texas Dev. Co. 1.
Stubblefield, Thornhill and others 1.
Wells drilling, 21; rigs, 2; total, 23.

WILDCATS
Baylor County—
Rigs
Wallace, Batchelder and others 1.
Wells Drilling
Mills, Cranfill and others 2.
Coffee, Crittendon and others 1.
Robinson, Independent Oil Co. 1.
Mills, Magnolia Pet. Co. 1.
Clay County—
Rigs
Scott, D'Yarmett and others 1.
Wells Drilling
Bullington, D'Yarmett and others 1.
Scaling, Scaling Oil Corp. 1.
Johnson, Texland Oil Co. 1-B.
Foard County—
Wells Drilling
Balcell, Landreth Prod. Co. 1.
Knox County—
Wells Drilling
Lawson, Williams and others 1.
Montague County—
Rigs
Denton, Gulf Prod. Co. 1.
Wells Drilling
Gist, The Texas Co., 2-A.
Bolding, Texhoma Oil & Ref. Co. 1.
Throckmorton County—
Rigs
Burkhalter, Cragin and others 1.
Wells Drilling
Elliott, Hale Tex Oil Co. 1.
McKnight, Houghland and others 1.
Stubblefield, Humble O. & R. Co 1.
Conger, Larkin and others 1.
Reynolds, Texhoma Oil & Ref. Co 1.
Carson County—
Rigs
Burnett, Crosby and others 1.
Burnett, Olson Bros. 1.
Wells Drilling
Burnett, The Texas Co. 1, 2, 4.
Burnett, American Ref. Co. 1, 2.
Armstrong, Culberson Bros 1.
Burnett, Danciger Oil Co. 1
Burnett, Gulf Prod. Co. 1-A 4-A.
Burnett, Silk and others 3
Burnett, Skelly Oil Co. 1
Cottle County—
Wells Drilling
Dulaney, Woodley and others 1.
Garza County—
Wells Drilling
Boren, Blackwell and others 1.
Connell, Union Petroleum Co. 1.
Gray County—
Wells Drilling
Wilson, Wilcox Oil Co. 1.
Saunders, The Texas Co. 1.
Hutchinson County—
Rigs
Johnson, Barnam and others 1.
Kingland, Twin 8's Oil Co. 1.
Wells Drilling
Cockrell, Gulf Prod. Co. 1.
Whittenburg, Gulf Prod. Co. 1.
Deahl, Prairie Oil & Gas Co. 1.
Whittenburg, Wilson and others 1.
Moore County—
Wells Drilling
Masterson, Producers & Refiners Oil Co. 1.
Potter County—
Wells Drilling
Warrick, Amarillo Oil Co. 1.
Bivens, Producers & Refiners Oo. Co. 2-A.
Wheeler County—
Wells Drilling
George, Cosden and others 1.
Westmoreland, Shedden and others 1.
Sheldon, Tyrell and others 1.
Williams, Whittington and others 1.
Bowers, Woodley and others 1.
Shackelford County—
Rigs
Lynch, Landreth Prod. Co. 3.
Poindexter, Landreth Prod. Co. 13, 15.
Lynch, McMahon and others 2.
Wells Drilling
Poindexter, Ilsing and others 1.
Miles, Humble Oil & Ref. Co. 1.
Sedwick, Kellog and others 1.
George, Magnolia Pet. Co. 3.
Palo Pinto County—
Rigs
Seaman, Youkon Oil Co. 1.
Wells Drilling
Strawn, Strawn Coal Co. 1.
Callahan County—
Rigs
Cathey, Dutton and others 5, 7.
Finley, Hickey and others 2.
Atkins, Poe and Wilson 4.
Wells Drilling
Forbes, Bryan and others 1.
Carter, Dutton and others 1.
Cathey, Dutton and others 6.
Harwell, Dutton and others 1.
Cathey, Sherrin and others 4.
Biggerstaff, Texas Pacific Coal & Oil Co. 1.
Cathey, Tidal Oil Co. 4.
Mitchell County—
Rigs
Kynerd, Daniel and others 1.
Kynerd, Morrison and others 1.
Wells Drilling
Gist, Eddleman and others 1.
Morrison, the California Co. 1, 8, 9, 10, 11.
Miller, the California Co. 3, 4.
Abrams, the California Co., 6.
Loving County—
Wells Drilling
Russell, Ramsey Oil Co. 1.
Chapman, Wheat and others 1.
Brown County—
Rigs
Gaines, Mahlstedt & Mook 1.
Gafford, Mahlstedt & Mook 1.
Chambers, Moore and others 1.
Gaines, Simms Oil Co. 1.
Wells Drilling
Cox, Avery and others 3.
Prather, Cal.-Prod. Syndicate 2.
Fomby, Critten and others 1.
Newton, Gillham and others 4.
Moore, Gump and others 1.
Gaines, Omaha, Southern Oil Co. 2.
Comanche County—
Wells Drilling
Moorman, Ghormely and others 1.
Stone, Kirk and Brewer 1.
Johnson, Poe and Wilson 1.
Martin, Spratt and others 1.
Reagan County—
Rig
University, Crockett Oil Co. 1.
Wells Drilling
University, Big Lake Oil Co. 11.
Sawyer, Dunning and others 1.
University, Texon Oil & Land Co. 1, 2.
Wells drilling, 81; rigs, 24; total, 105.

N. LOUISIANA-ARKANSAS

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Union County: (Smackover & El Dorado).	86	19,253	14	2	20	112	132
Ouachita Co.: (Smackover)	53	3,067	5	2	19	72	91
Stephens Field: (Columbia & Ouachita Counties ..	4	115	0	0	3	15	18
Nevada Co. ..	0	0	0	0	2	3	5
Bellevue	5	21	2	0	0	2	3
Caddo	5	44	0	0	4	13	17
Claiborne	0	0	0	0	0	0	0
Cotton Valley.	8	5,535	0	3	0	28	28
De Soto	0	0	0	0	0	1	1
Red River	0	0	0	0	0	0	0
La. wildcats.	15	0	8	7	10	57	67
Ark. wildcats	4	0	4	0	4	29	33
July	182	28,035	33	14	62	332	394
June	215	33,949	26	26	103	382	485
Difference .	33	5,914	7	12	41	50	91

Wells Completed.
UNION COUNTY, ARKANSAS.

15-16-15 A. W. Giller, Amerada Pet. Co. 2 ..... dry
1-16-17 Werner, Arkansas Drg. Co. 2 40
19-16-15 Powell, Bond Trustee 2..... 300
8-16-15 Harell, Broderick & Calvert 1. gas
25-16-16 Burton, Caldwell et al 2.....1000
25-16-16 Burton Cherokee Pet Co. 2.. 300
14-16-15 Giller, Crawford & Sebastian 6 dry
3-16-15 Graves, Crawford & Sebastian 3 150
29-16-15 Aiplin, J. E. Crosby Tr. 2..... 200
18-17-14 Polk & Exell, Cross et al 3... 75
19-16-15 Scott, Federal Pet Co. 4..... 150
18-16-15 Smith, Federal Pet. Co. 4..... 150
28-15-16 Mullins, Forest Oil Co. 3..... 30
1-16-17 Hodges, W. H. Gilliland..... 35
3-16-15 Hardy, Murphy, Gulf Refining Co. 9 5
4-16-15 Hardy, Murphy, Gulf Refining Co. 11 40
13-16-16 Hedgewood, Gulf Refining Co. 1 90
5-16-16 Werner, Gulf Pet. Co. 18.... 15
6-16-16 L. Werner, Gulf Pet. Co. 20... 95
23-16-15 Clanson, Haviland Oil Co. 1.. dry
20-16-15 Hicks, Higgen Oil & Refining Co. 4 250
6-16-16 Goff, Holliday Trust Co. 3.... 250
6-16-16 Goff, Holliday Trustee 2..... 40
30-16-15 Burton, Hollyfield 2 500
26-16-16 Burton, Humble Oil & Refining Co. 1 1500
3-16-15 Flenniken, Humble Oil & Refining Co. 3 108
11-16-15 Giller, Humble Oil & Refining Co. B-1 90
20-16-15 Hicks, Humble Oil & Refining Co. 2 100

19-16-15 Moore, Humble Oil & Refining Co. 4 160
29-17-14 Smith, Imperial Oil & Refining Co. 2 175
34-16-14 Matthews, Isola Oil Co. 1 .... dry
3-16-15 Williams, Kinnebrew et al 2.. 100
24-16-16 Moore, Kouri et al 1 100
17-16-15 Burn, Lion Oil & Refining Co. 2 25
24-16-16 Hedgewood, Lion Oil & Refining Co. 4 300
3-16-15 Roper Livingston et al 5..... 250
1-16-17 Neely Magnolia Pet. Co. 4.... 30
13-16-16 Murphy Marine Oil Co. 1..... dry
3-16-15 Graves McFarland et al 3.... 750
13-16-16 Hearin, McFarland et al 1 .... dry
12-17-15 Polk & Ezell, H. J. Morgan 2. 40
19-16-15 McKinney, Hill Meyers 3.... 100
14-16-16 Tatum, Natural Gas & Pet Co. 2 ..... dry
18-17-14 Polk & Ezell, Olvey et al 3.. dry
26-16-15 Goodman, Pherris et al 1.... dry
17-16-15 Davis, Pevie Oil Co. 1 40
17-16-15 Davis, Pevie Oil Co. 2..... 65
20-16-15 L. Hicks, Pure Oil Co. 3.... 75
29-16-15 L. Hicks, Pure Oil Co. 6.... 100
21-16-15 Morrison, Pure Oil Co. 1..... 50
16-16-15 Duras, Pure Oil Co. 3..... 75
20-16-15 Shicks, Pure Oil Co. 3..... 100
24-16-16 Hedgewood, Ramage et al 4.... 400
18-16-15 Smith, Ramage et al 2..... 60
20-16-15 Hicks, Ray Drilling Co. 4.... 300
28-16-14 Long, Ray et al 1 50
10-16-15 Lanton, Sam Richardson 2.. gas
8-16-15 Bevy, Sandford, et al 4..... 100
19-16-15 Henderson Schuller et al 2....1000
19-16-15 Henderson Schuller et al 1.... 400
24-16-16 Hedgewood, John Seif et al 1. 150
12-16-16 Houstan, Simson et al 1..... dry
23-16-15 Saxon, Smitherman McDonald A-5 ..... dry
5-16-16 Saxon, Smitherman, McDonald 3 ..... dry
25-16-16 Burton, Star Oil Co. 2..... 250
20-16-15 Hicks, Stavis Oil Co. 2..... 50
25-16-16 Moore, Stavis Oil Co. 1 250
19-16-15 McKinney, Stewart et al 4.... 125
24-16-16 Smith, Sure Oil Co. 3..... 500
24-16-16 Smith, Sure Oil Co. 5..... 100
24-16-16 Smith, Sure Oil Co. 8..... 350
19-16-15 Wilson, Sun Oil Co. 3..... 75
20-14 Smith, Terry Sumner Field 5 70
21-16-15 Cook, Texas Co. 6 75
24-16-16 Hedgewood, Texas Co. 3..... 200
24-16-16 Hedgewood Texas Co. 4.....1000
2-16-17 J. G. Smith, Texas Co. 1..... 50
23-16-16 Goodwin, Thurman et al 1.... dry
24-16-16 Alphin, Unity Pet. Co. A-6....1000
24-16-16 Alphin, Unity Pet. Co. A-7.... 800
24-16-16 Alphin, Unity Pet. Co. A-5....2500
25-16-16 Burton, Veccino Syndicate 2.. 600
6-16-16 Rice, Weatherbee et al A-26.. 250
23-16-15 Goodwin, Wilroy et al 1..... dry
24-16-16 Alphin, Woodley Pet. Co. 3.... 90
24-16-16 Alphin, Woodley Pet. Co. 4.... 120
21-16-15 Gill, Winger 2..... 200

OUACHITA COUNTY

24-15-17 Reynolds, Ark. Drg. Co. 2.... 30
31-15-16 Patton, Arkansas Inv. Oil Co. B-4 45
30-15-16 McRea, Arkansas Inv. Oil Co. 4 40
25-15-17 Wells Atlantic Oil Pet. Co. B-6 40
24-15-16 Hughes Burton, Trustee 9.... 160
24-15-17 Bevy, Dr. Clark 5..... 50
30-15-17 Ferris Burton, Jimmie Cox 1. dry
34-15-16 T. C. Joyce, Dasko et al 1.... 150
20-15-16 Stringfellow, Denver Samach, Syndicate 2 40
25-16-17 LaGrone, Finley et al 1..... dry
20-15-17 Minor, Forest Oil Co. 2..... 240
36-15-17 LaGrone, Gilliland Oil Co. 3.. 60
25-15-17 Wells, Gilliland N-3 20
28-15-16 Pincler, Golfer Refining Co. 7. 75
28-15-16 Hardin, Golfer Refining Co. 1.. 75
32-15-16 T. C. Patton, Golfer Refining Co. 4 60
33-15-16 R. Benunet, Golfer Refining Co. 2, 5..... gas
29-15-16 Soison, Golfer Refining Co. 9.. 50
32-15-16 Myerest, Gray et al 2..... 30
25-15-17 Breerton, Hall et al 2..... 30
36-15-17 Smith, Hamilton L. H. 2.... 30
26-16-17 Anderson, Homer Ref. Co. 4.. 50
23-15-17 Anderson, Hunt et al B-5.... 90
29-15-16 Myer, Lanier et al 2..... 30
20-15-16 Hardin, Magnolia Pet. Co. 2.. 60
20-15-16 Hardin, Magnolia Pet. Co. 3.. dry
31-15-16 Smith, Magnolia Pet. Co. 9.... 90
29-15-16 McElroy, Majestic Smackover Syndicate A-2 160
28-15-16 Hughes, Natural Gas & Pet. Co. 1 75
25-15-17 Jeffus, Nelson R. B. 2 45
26-15-17 Anderson, Nelson R. B. 3.... 50
34-15-15 Snyder, Owenwood Oil Co. 3.. 200
25-15-17 Reynolds, Palmetto Oil Co. 3.. 30
25-15-17 Jeffus, Ramage et al 2..... 45
29-15-16 Myar, Riggs Drilling Co. 2.. 45
22-15-16 Shirley, Berg Simmons, Bob 1 dry
32-15-17 Moon, Smackover Creek, Oil Co. 1 ..... dry
33-15-15 Griffin, Standard Oil Co. 3.... 90
34-15-15 Powell, Standard Oil Co. 1.... 70
32-15-15 Umsted, Standard Oil Co. 5.. gas
20-15-16 McElroy, Sutton et al 3..... 100
29-15-16 Tarver, O. F. 4..... 30
19-15-16 Anderson Texas Co. 3..... 75
30-15-16 Snow, Texas Co. 6..... 75
30-15-16 LaGrone, Texas Co. 10..... 60
32-15-16 Solmson, The Texas Co. B-3.. 37
28-15-16 Stringfellow, Texas Co. 6.... 30
31-15-16 Smith, W. A. Texas Co. 6.... 60
30-15-16 Snow, Texas Co. 7..... 65
32-15-16 Solmson, Texas Co. B-4..... 90
25-15-17 Anderson, Whittiken et al 3.. 75
26-15-17 Hodges, Whittiken et al 1.... 40
29-15-16 Fincher, Wingfield et al 4.... 35

Production 3067

BELLVUE FIELD

10-19-11 Bliss & Weatherbee, Humble Oil & Refining Co. A-16..... dry
23-19-11 Strange, Olmstead et al A-16.. dry
23-19-11 Strange, Olmstead et al 8.... 10
10-19-11 Bliss & Weatherbee, Standard Oil Co. 13 1
14-19-11 Wyche, Standard Oil Co. 61... 12

Production 21
Wells completed 5
Dry 2

CADDO

13-21-15 Robertshaw, Dixie Oil Co. 61 . 12
23-22-15 Hanger, Dixie Oil Co. 2..... 5
7-21-15 Hartzo, Reed et al 1..... 5
11-20-16 Rudersdoy, Rush et al 1..... 12
22-21-15 Crye, Lane, Tarver Bashara 11 10

Completions 44
Wells completed..... 5

COTTON VALLEY

21-12-10 Crichton, Ohio Oil Co. 1..... gas
24-21-10 Hope estate, Oil Field Gas Co. B-2 ..... gas
13-21-10 Hope estate, Oils Field Gas Co. A-1 35
14-21-10 L. Merritle, Fortuna Oil Co. 1. 200
22-21-10 Cox Hade, A. Arnes 1 ..... gas
11-21-10 A. J. Hodges, Humble Oil & Refining Co. 2 3500
14-21-10 Merritt, Invincible Oil Co. 2.. 300
14-21-10 Merritt, Woodley Pet Co. 1500

Production 5,535
Wells completed 5
Gas production 115,000,000

LOUISIANA WILDCATS

Bossier Parish—
18-18-11 Johnson Standard Drg. Syndicate 1 ..... dry
13-19-11 McCloud, Standard Oil Co. 1.. dry
Claiborne Parish—
30-21-4 Reynolds, Woodley & Collins 1 dry
Lincoln Parrish—
28-20-4 Hedgepath, McCaldin et al 1.. dry
Morehouse Parish—
30-20-5 White, Landell et al 2 ..... gas
8-19-5 Fee, Landell et al 21 ..... gas
Ouchita Parish—
4-19-5 Lieber, Central Carb Co. 2 .... gas
30-19-5 Fee, Landell et al 25 ..... gas
4-19-5 Lieber, Palmer Corp. 1 ..... gas
28-19-5 Gladys, Palmer Corp. 2..... dry
15-19-5 Fee, Southern Carbon Co. 32.. gas
32-19-5 Vinson, Standard Carbon Co. 2 gas

UNION PARISH

15-23-1e Frost Johnson Lumber Co., R. E. Allison 1..... Dry
24-23-1w Security, Trust, Gulf Refining Co. 2 ..... Dry
2-23-2w Smith, Neddo Petroleum Co., Invincible Oil Corp. 1..... Dry

STEPHENS FIELD
Columbia County, Arkansas

14-15-20 Murphy, Atlantic Oil Co. 5 20
25-15-20 J. R. Hannond, Magnolia Pet. Co. 1 35
36-15-20 W. Jones, Gulf Refining Co. 2. 40

Production 95
Ouchita County—
31-15-19 Bettis Hall, Gulf Refining Co. 1 20

ARKANSAS WILDCATS

Columbia County—
22-18-22 Barge, Nebert, et. al. 1..... Dry
Hempstead County—
12-13-27 Spates, Johnson, et al. 1..... Dry
Hot Springs County—
10- 6-18 Kirkpatrick, Smith Refining Co. 1 ..... Dry
Nevada County—
11-13-21 White, Kanark Oil Co. 2..... Dry

UNION COUNTY, ARKANSAS

Rigs

8-16-15 Bilyew, Anderson et al, 1.
1-16-17 L. Werner, Ark. Drg. Co., 3.
19-16-15 Powell, Bond Trustee, 3.
7-16-16 Carroll, Chambers Drig. Co. 1.
19-16-15 Alphin, Clark, J. W., 2.
1-16-17 Staples, Gilliland Oil Co. 3.
9-17-16 Dumas, Hurst et al, 1.
22-18-14 Terrell, Lemond, et al, 1.
4-16-15 Hays, Lion Oil & Refining Co., 1.
3-18-15 Fee, Lyell et al 6.
16-16-15 McRea, McPherson Oil Co., 3.
29-17-14 Smith, Meyerscough et al, 3.
19-16-15 Scott, Ohio Oil Co., 2.
11-16-15 Alphin, Phillips Pet. Co., B-2.
6-16-16 Rice, Riggs Drig. Co., 2.
6-16-16 Hodges, Rutledge, W. E., Tr., 2.
5-16-16 Saxon, Smitherman-McDonald, B-4
6-16-15 McClanahan, Standard Oil Co. of Louisiana, B-2.
1-16-17 Smith, Sun Co., 3.
1-16-17 Hodges, Wright et al, 2.
Total rigs, 20.

Wells Drilling

19-16-15 Wilson, Amerado Pet. Co., 1.
11-15-16 Alphin, Ark. Fuel Oil Co., 4.
29-16-15 Dumas, Ark. Fuel Oil Co., 1.
8-16-16 J. E. Murphy, Ark. Fuel Oil Co., 2.
36-16-16 Murphy, Beggs et al, 1.
19-16-15 Wilson, Black Duke Oil Corp., 1.
21-17-15 Miller, Bradley & Casart, 1.
25-16-16 Hallock, Caldwell et al, 3.
25-16-16 Burton, Cherokee Pet. Co., 3, 4, 5, 6.
2-18-16 Morgan Constantin Refining Co., 1.
11-16-15 Giller, Crawford & Sebastian, 7.
3-16-15 Graves, Crawford & Sebastian 4.
29-16-15 Alphin, Crosby, J. E., Tr.,4.
13-16-16 Smith, Cross, et al, 2.
25-16-16 Burton, Dunn Oil Co., 1.
18-16-15 Smith, Dunn Oil Co., 4.
24-16-16 Hilton, Eason, et al, 1and 2.
5-17-15 Thompson, East, et al, 1.
8-16-16 Childs, Fed. Pet. Co., 2.
12-16-16 Kane, Field Oil Co., 8.
1-16-16 Staples, Gilliland Oil Co., 4.
25-16-15 Alphin, Gulf Refining Co., 8.
13-16-16 Hedwood, Gulf Refining Co., 2.
6-16-16 L. Werner, Gulf Refining Co., 19 and 21.
11-19-12 Teele, Harrell, et al, 1.
6-16-16 Goff, Holiday, Trustee, 4.
22-16-15 Adcock, Humble Oil & Refining Co., 2.
25-16-16 Burton, Humble Oil and Refining Co., 2, 3 and 4.
1-18-14 Cordell, Humble Oil and Refining Co., 1.
18-16-15 Smith, Humble Oil & Refining Co., 3.
29-17-14 Morgan (formerly Jett et al), 1.
19-16-15 Williams, Kinnebrew, et al, 1.
16-16-16 Saxon, Lanier, et al, 1.
21 18-15 Pendleton, C. H. Leonard, 1.
17-16-15 All Gulf, Lion Oil & Refining Co., 4
13-16-17 Campbell, Mag. Pet. Co., 2.
2-16-17 Smith, Mag. Pet Co., 1 and 1.
3-16-15 Graves, McFarland, et al, 1.
25-16-16 Burton, Meek Trustee, 2.
10-19-15 Roberts, Montgomery, et al, 1.
5-16-15 Flenniken, Morris Drig. Co., 1 and 6.
19-16-15 Scott, Ohio Oil Co., 1.
23-16-15 Alphin, Page et al, 4.
30-16-16 Alphin Page et al, A-1.
7-16-15 Tatum, Plateau Oil Co., 1.
17-16-15 Cook, Preston Oil Co., 2.
20-16-15 Berry, Pure Oil Co., 5.
21-16-15 Hays, Pure Oil Co., 3.
29-16-15 Hicks, Pure Oil Co., 2.
29-16-15 Lindsay, Pure Oil Co. 1 and 2.
17-16-15 Massey, Pure Oil Co., 3.
6-16-16 Rice, Riggs, Drig. Co., 1.
8-16-15 Flenniken, Roxana Pet. Co., 1.
7-16-16 Carruth, Rutledge W. E., Tr., 1.
1-16-17 Hodges, Rutledge W. E., Tr.
25-16-16 Burton, Simon et al, 1.
23-16-15 Hicks, Smitherman McDonald, 1.
2-16-15 Alphin, Standard Oil Co. of La., 5.
3-16-15 Ahphin, Standard Oil Co. of La., 8.
9-16-15 Alphin, Standard Oil Co. of La., 14.
22-16-15 Lingelback, Standard Oil Co. of La., 8.
4-16-16 Saxon, J. S. R., Standard Oil Co. of La., 1.
21-19-12 Little, Stake et al, 1.
25-16-16 Moore, Staves Oil Co., 2.
19-16-15 Wilson, Sun Oil Co., 4.
24-16-16 Smith, Sure Oil Co. 7.
1-16-17 Neely, Sutherland et al 2.
1-16-17 Stout Lbr. Co., Tarver et al 1.
24-16-16 Hedgwood, Texas Co. 5, 6, 7 and 8.
6-16-14 Cargile, Umsted et al 1.
25-15-16 Burton, United Cen. Oil Co. 1.
15-16-15 Craig 1, United Cen. Oil Co. 1.
24-16-16 Alphin, Unity Pet. Co. A-5, B-3, C-3.
23-16-16 Burton, Unity Pet. Co. 1.
24-16-16 Moore, Waxler et al 2.

Shut Downs

14-19-11 Union Saw Mill, Berry et al 1.
34-17-12 Clark, Bonderant et al 1.
3-18-12 Slegall, Bonderant et al 1 1.
9-18-12 Tuberville, Bonderant et al 1.
14-16-16 Thornton, Coker Drg Co. 1.
13-16-16 Giller, Crawford & Sebastian 2.
22-16-16 Goodwin, Dillon et al 1.
20-16-15 Cook, Harris et al 1.
2-18-18 Morgan, Hicks et al 1.
23-16-16 Dumas, Hunt et al 1.
9-16-15 Murphy, Keene & Woolf, 1.
28-16-15 Dumas, Nickander et al 1.
4-16-16 Saxon, Pan American Oil Co., A-4, B-1, B-2.
7-17-14 Stevens, Ray Drig Co., 1.
9-16-16 Meakin, Reliance Drig. Co. 1.
5-16-16 Saxon, Standard Oil Co. of La. B-2.
12-16-17 Hodges, Steel Oil Co. 2.
23-17-13 Burnside, Teter E. T. Tr. 1.
20-16-14 Goodwin, Traffic Oil Co. 1.
1-18-17 Johnson, Wall et al 1.
Rigs, 20; wells drilling, 90; shut down, 22; total, 132.

OUACHITA COUNTY

Rigs

34-15-15 Snyder, Ark. Fuel Oil Co. 4.
30-15-16 Myar Est., Ark. Inv. Oil Co. 3.
31-15-16 Patton, Ark. Inv. Oil Co. 9.
25-15-17 Smith, Atlantic Oil Prod. Co. 1.
25-15-17 Wells, Atlantic Oil Prod. Co., B-2, B-3, B-5.
31-15-17 Burton, Giles Trustee 1.
36-15-17 Smith W. A., Gilliland Oil Co. 2.
25-15-17 Wells, Gilliland Oil Co., S-3.
23-15-17 Green, Hunt et al 1.
32-15-16 Myar Est., Keene & Woolf 2.
32-15-16 Patton, Leon et al 3.
26-15-17 Brown, Magnolia Pet. Co. 1.
26-15-17 Jeffus, Nelson R. B. 3.
25-15-17 Jeffus, Ramage et al 3.
20-15-16 LaGrone, Stumph & Todd 3.
34-15-15 Joyce, Sure Oil Co. 2.
28-15-16 Hughes, Sutton et al 12.

Wells Drilling

25-15-17 Fee, Anderson et al 3 and 4.
24-15-17 Reynolds, Ark. Drig. Co., 3.
30-15-16 McRea, Ark. Inv. Oil Co. 5.
31-15-16 Patton, Ark. Inv. Co. 8.
24-15-17 Brierton, Atlantic Oil Prod. Co. C-2
20-15-16 Rowland, Atlantic Oil Prod. Co. C-1
25-15-17 Smith, Atlantic Oil Prod. Co. C-1, 4.
25-15-17 Wells, Atlantic Oil Prod. Co. A-4, B-2, B-3, B-5.
13-15-17 Copenhaven, Bray-Hawthorne 1.
28-15-16 School yard, Dr. Clark 1.
4-16-15 Murphy, Clark & Melat 1.
33-15-15 Berry, Crosby, J. E. 1, 2 and 3.
26-15-17 Anderson, E. L. Farris 1.
25-15-17 Keller, Finley et al 1.
22-15-16 Cramer, Forest Oil Co. 15.
25-15-17 McRea, Gilliland Oil Co. 2 and 3.
36-15-17 Smith, Gilliland Oil Co. 1.
25-15-17 Wells, Gilliland Oil Co., N-4, S-2.
28-15-16 Werner, Gulf Refining Co., A-6.
28-15-17 Riley, Hammon et al A-6.
36-15-17 Shirey, Herman & Jackson 1.
26-15-17 Page, Lee, Trustee, 1.
31-15-16 Smith, Magnolia Pet. Co. B-8.
29-15-16 McElroy, Majestic-Smackover Syndicate 3.
24-15-17 Fee, Mangus 5.
28-15-16 Marr Oil Corp. 6.
28-15-16 Hardin, Mercury Oil Co. 2.
28-14-17 McDaniels, Morefield et al 1.
25-15-17 Reynolds, Palmetto Oil Co. 4.
33-15-15 Hernesberger, Phillips Pet. Co. 5.
22-15-16 Cramer, Reynolds 2.
19-15-16 Chandler, Skelly Oil Co. 5.
22-15-17 Hoffman, Southern Oil Co. 1.
32-15-15 Griffin, Standard Oil Co. 4.
32-15-15 Umsted, Standard Oil Co. 12.
26-15-17 Jeffus, Staves et al 1 and 2.
24-15-17 Berry, Sun Co. 4.
21-15-16 Hughes, Sutton et al 16.
20-15-16 Minor, Sutton et al 2.
33-15-15 Berry, The Texas Co. 5.
20-15-16 LaGrone, The Texas Co. 9.
28-15-16 Stringfellow, The Texas Co.
17-15-16 Tuberville, Weaver & Smithwick 1.
30-15-16 Watts, White et al 2.
23-15-17 Anderson Whittiken et al 2.
31-15-19 Bettie Hall, Gulf Refining Co. 2.
31-15-19 Bettie Hall, Ohio Oil Co. 1.

Shut Downs

28-15-16 Mullins, Forest Oil Co. 1.
27-15-16 Mullins, Forest Oil Co. 11.
24-15-17 Elliott, Home et al 1.
5-16-15 Hill, Invaders Oil Co. 1.
21-15-16 Pitchle, Johnson Drig. Co. 1.
4-16-15 Berg, Leon et al 1.
20-15-16 Hardin, Magnolia Pet. Co. 1.
28-15-16 Mullins, Marr Oil Corp. 4.
27-15-16 Mullins, Morris Drig. Co. 2.
5-16-15 Umsted, Olvey et al 1.
27-15-17 Hildreth, Peace et al 1.
25-13-16 Eagle Mills L. Co., Peltier Oil Co. 2.
35-15-17 Shirey, Smith 1.
5-16-15 Goodwin, Wilson Pet. Co. 1.
Rigs, 19; wells drilling, 58, shut downs, 14; total 94.

COTTON VALLEY DISTRICT

Wells Drilling

2-21-10 Logan, Belchic & Laskey 1.
14-21-10 L. Merritt, Fortuna Oil Co. 2 and 3.
14-21-10 S. J. Merritt, Fortuna Oil Co. 2.
11-21-10 A. J. Hodges, Gulf Refining Co. 2.
14-21-10 Babb, Humble Oil & Ref. Co. 2.
14-21-10 Babb, Humble Oil & Ref. Co. 4.
13-21-10 A. J. Hodges, Humble Oil & Ref. Co. 1.
11-21-10 A. J. Hodges, Humble Oil & Ref. Co. 3.
10-21-10 A. J. Hodges, Humble Oil & Ref. Co., A-1.
14-21-10 Merritt, Humble Oil & Ref. Co. 1.
14-21-10 Merritt, Humble Oil & Ref. Co. 2.
14-21-10 R. D. Webb, Humble Oil & Ref. Co. 1.
21-21-10 Crichton, Invincible Oil Co. 1.
11-21-10 A. J. Hodges, Invincible Oil Co. 1.
11-21-10 A. J. Hodges, Invincible Oil Co. 2.
14-21-10 Merritt, Invincible Oil Co. 3.
14-21-10 Merritt, Invincible Oil Co. 4.
22-21-10 Lindsay, Invincible Oil Co. 1.
24-21-10 Pardee, Moffatt & Murphy 1.
2-22-11 Pine Wood Lbr. Co., Morefield & Tanner 1.
23-21-10 R. L. Holliway, Ohio Oil Co. 1.
22-21-10 McInnis, Standard Oil Co. 1.
14-21-10 Merritt Woodley Pet. Co.
14-21-10 Merritt Woodley Pet. Co. 3.

Shut Downs

17-19-10 Hudson, Olmstead et al 1.
29-12-10 Miller, Palmer Corp., 1.
21-23-11 Baucher, Smitherman-McDonald 1.
8-20- 9 Bible, Stack & Eggers 1.
Wells drilling, 24; shut down, 4; total, 28.

BELLEVUE FIELD

Wells Drilling

23-19-11 Bliss & Weatherbee, Bliss & Weatherbee 1.
15-19-11 Bliss & Weatherbee, Bliss & Weatherbee 27.
Wells drilling, 2.

CADDO PARISH

Rigs

10-18-16 R. T. Sharp, Brewer & Sewall 1.
14-21-15 Robertshaw, Dixie Oil Co. 61.
6-16-16 Agurs, Proven Production Co. 1.
22-23-16 Ho essa O. & L. Co., Rowe-Danlo et al 1.

Wells Drilling

2-16-15 Gardner Blades, Caddo Western Oil Co. 1.
23-19-24 Levy Realty & Planting Co., Collins, et al 1. ½
23-21-15 Caddo Mineral Land Co., Dixie Oil Co., 8.
13-21-15 Robertshaw, Dixie Oil Co. 43.
14-20-16 Ferry Lake, Gulf Refining Co., 31.
22-20-16 Ferry Lake, Gulf Refining Co. 11.
24-22-15 Caddo Mineral Land Co., Lewis Oil Corp. 4.
16-14-16 Johnson, T. C. Adams et al 1.
Total wells drilling 8.

Shut Downs

30-19-15 Nickerson, Ark. Caddo Oil Co. 1.
27-16-14 Alexander & Ledbetter, Crude Oil Co. 1.
15-23-16 Rodessa Oil & Land Co., La. Texas Community Oil Co. 1. ½
22-21-15 Raines, Mutual Oil Co. 10.
9-20-16 Jeems Bayou Hunting & Fishing Club, Reynolds Oil Co. 4.
Rigs, 4; wells drilling, 8; shut down, 1;

DE SOTO PARISH

Wells Drilling

32-12-11 Matthews, Tarver 3.

LOUISIANA WILDCATS

Rigs

34-20- 6 Harmon, Pomeroy et al 1.
6-16-11 McDade, Standard Oil Co. 6.
22-11-2e Urania, Gulf Refining Co. A-1.
35-21- 4 Crossett, Natural Gas Prod. Co. 11.
4-18-15 Fee, Humber J. M. 5.
40-20- 4 Trezenvant, Ouachita Natural Gas Co. 3.
21-19- 5 Fee, Southern Carbon Co. 36.
36-20- 4 Cole, United Oil & Natural Gas Co. 2.
17-13-1w Nelson, Castello et al 1.
30-23-2w T. D. Brazile, Frankel Bros. 1.

Wells Drilling

26-21- 6 Calhoun, Arnett et al 1.
20-21- 8 Aubry, Block Oil & Gas Co. 1.
20-20- 7 Easterp, Dixie Oil Co. 1.
36-22- 7 Gandy, El Dorado Chief Oil Co. 1.
10-20- 5 Loyd, Standard Oil Co. 1.
5-21- 5 Ferguson, Triangle Drg. Co. 1.
30-21- 7 Oakes, White Oil Corp. 18.
36-11-14 Pollock, Greyhound Syndicate 1.
24-13-12 Bodcau Lumber Co., Atlantic Oil Producing Co. 1.
16-20-11 Hamilton, Woodley & Collins 1.
1- 7-1w Ball, Grant Parish Pet. Co. 1.
21-11-3e Louisiana Central Lumber Co., Stovall Drg. Co. 2.
20-10-2e Urania, Urania Pet. Co. 4.
13-20-3w Barrett, Buckner et al 1.
63-20-4e Southern Amalgamated Oil Co. 1.
20-20- 5 Erwin, Carson Carbon Co. 2.
K5-20- 5 Eubanks, Feazel, W. C. 1.
17-20- 5 Spyker, Humphreys Carbon Co. 1.
22-20- 5 Feazel, Ladel et al 1.
24-20- 5 Snyder, Natural Gas Production Co. 4.
3-18- 5 West Virginia Tbr. Co., Atlas Oil Co. 2.
6-19- 5 Fee, Coamon Carbon Co. 1.
54-17- 3 Dixie Lumber Co., Haynes et al 1.
33-20- 5 Collins, Oil Field Exploration Co. 1.
12-19- 4 Grayson, Palmer Corp. 1.
4-19- 5 Lieber, Palmer Corp. 2.
21-19- 5 Fee, Southern Carbon Co. 31.
15-19- 5 Fee, Southern Carbon Co. 33 & 34.
5-19- 5 Fee, Southern Carbon Co. 35.
18-19- 5 Gayle, Standard Carbon Co. 1.
2-19- 5 Ladel, The Texas Co. 1.
36-20- 4 Cole, United Oil & Natural Gas Co 1.
4-18- 5 Fee, West Virginia Oil & Gas Co. 4.
25-21-3w Heard, Cargile et al 1.
17-23-1e Frost, J. L. Co., Davidson & Palmer 1.
25-22-2w Pryor Estate, Johnson et al 1.
18-23-1e Templeton, J. F. Palmer 1.
32-21-4e Grayling Lumber Co., The Texas Co. B-1.
8-21-10e Fiske, Arkansas Fuel Oil Co. 1.
23-23-10e Baine Wagnor, Orion 1.

Shut Downs

22-19- 5 Fields, Forest Oil Co. 1.
3-11-15 Frost Johnson, Ulrey et al 1.
13-12-10 Marston, Coushatta Syndicate 1.
2-14-12 Fee, Le Grande et al 3.
11-20-13 Bernstein, Armisted Tr. 1.
15-12-12 Bodcau Lumber Co., Estes et al 1.
23-18-11 Jones, Sneed et al 1.
4-18-11 McGuffin, Zink et al 1.
21-14- 2 Fee, Culver et al 1.
26-20- 5 Perry, McKenzie et al 1.
32-19- 6 Chess Wymond, Richland Oil & Gas Co. 1.
7-20- 7 Michim, Ziegen et al 1.
7-23-1e Frost Johnson Lumber Co., Lewis et al 1.
17-23-1e Clark, Union Parish Drg. Co. 1.
Rigs, 10; drilling wells, 42; shut down, 15; total 67.

STEPHENS FIELD
COLUMBIA COUNTY

Rigs

23-14-20 Jackson, Arkansas Osage Oil Corporation 3.
14-15-20 Murphy, Atlantic Oil Producing Co. 9.
13-15-20 Adkins, Shaffer Oil & Refining Co. S-2.

Wells Drilling

2-18-22 Baker-Joiner, Amerada Petroleum Corp. 1.

12-17-22 Ray-Fullenweider, Arkoll Co. 1.
16-16-20 Weaver, Atlantic Oil Corp. 4.
16-16-20 W. Jones, Gulf Refining Co. 2.
16-16-20 L. Rinehart, Magnolia Petroleum Co. 1.
1-19-21 Williams, Virgol Heath, Trustee 1.
Shut Down
22-18-20 Robinson, Brown et al 1.
13-15-20 Smart, Hickman et al 2.
30-19-18 Hays, Hosey-McDonald 1.
18-17-22 Sorrels, Johnson et al 1.
20-16-18 Watts, Miller et al 1.
7-19-19 Emerson, Russell & Kent, 1.
25-18-19 Duffer, Smith & Compton 1.
Rigs, 3; wells drilling, 6; shut down 7; total, 16.

OUACHITA COUNTY
Wells Drilling
21-15-19 Bettis Hall, Gulf Refining Co. 2.
21-15-19 Bettis Hall, Ohio Oil Co. 1.
Wells drilling, 2.

NEVADA COUNTY, ARK.
Rigs
16-14-21 Blecke, Ames et al 1.
16-14-21 Womack, Smitherman & McDonald 4.
Well Drilling
16-14-21 Womack, Autry Oil Co. 2.
Shut Down
16-14-21 Butcher, Steel & Sandlin 1.
Rigs, 2; wells drilling, 1; shut down 2; total, 5.

ARKANSAS WILDCATS
Rigs
31-10-23 McCain, Arkado Oil Co. 1.
8- 4-12 Meek, Hill & Arnold 1.
1-20-24 Red River Land Co., KenSaw Pet. Co. 2.
¼
22-14-26 Gillespie, Munn Oil & Gas Co. 1.
Wells Drilling
1-15-15 Childress, Arkansas Fuel Oil Co. 2.
11-12-23 Eaves, Edwards & Anderson 1.
15-13-29 Goodrun Timber Co., Hains et al 1.
12-12-21 Honea, Kenark Oil Co. 1.
22- 9-10 Plumer, Merkle Syndicate 1.
36-12-27 Adams, Simmons, G. W. Tr. 1.
18- 6-13 Chicago Land & Timber Co., The Texas Co. 3.
Shut Down
12-15-22 Perry, Burman et al 1.
24-11-25 King, Columbia Hope Oil Co. 2.
7- 3-10 Hensley, Decou Oil Co. 1.
32-11-21 Grayson, Dudley et al 1.
10-13- 6 Karnes, Graves et al 1.
5-12-21 Allen, Grote et al 1.
8- 6-11 Pike, Haley & Evans 1.
26-16-13 Freeman, Smith, Harris & Bickley 1.
10-11-21 Hawkins Johnson et al 1.
12-13-26 Trotter, King & Wilson 1.
33-14-28 Thompson, Kress A G 1.
17-11-25 Nichols, Myers et al 1.
17-12-23 Yates, Orr et al 1.
16-12-20 Henry, Prescott Oil Co. 2.
21-14- 7 Spencer, Ratcliff et al 1.
5-13- 8 Harris, Rhodes et al 1.
5-16- 7 Fee, Spoonse et al 1.
18-11-11 Word, Stark & O'Mara 1.
23-13- 6 Fee, Stenke et al 1.
¼
25-11-22 Ludlow, Sullivan Oil & Gas Co. 2.
1-10-23 Suckle, Weisman et al 1.
1-10-23 Moore & Martin, Wooten et al 1.
Rigs, 4; wells drilling, 7; shut down, 22; total, 33.

GULF COAST

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry or SW	Gas	Rigs	Drg.	Ttl.
Batson	4	1,610	0	0	2	5	7
Blue Ridge	0	0	0	0	1	3	4
Barber Hill	0	0	0	0	0	2	2
Big Creek	0	0	0	0	0	5	5
Dayton	0	0	0	0	0	1	1
Damon Mound	2	0	2	0	0	1	1
Edgerly (La.)	3	80	1	0	0	2	2
Goose Creek	16	3,060	3	0	5	18	23
Humble	4	3,050	2	0	2	11	13
Hull	18	8,945	3	0	6	17	23
Jennings	5	40	3	0	1	2	3
Markham	0	0	0	0	0	3	2
Orange	14	10,140	1	0	2	15	17
Pierce Jct.	1	0	0	1	0	1	1
Spindletop	5	105	2	0	0	3	3
Saratoga	3	52	1	0	0	5	5
Sour Lake	6	285	2	0	1	4	5
Vinton	11	1,825	1	0	3	7	10
W. Columbia	3	800	1	0	0	4	4
Miscellaneous, Gulf Coast	5	700	3	0	11	34	45
Total July	100	30,692	25	1	34	142	176
Total June	94	11,830	36	2	26	114	140
Difference	6	18,862	11	1	8	28	36
Southwest Fields—							
Leling	26	14,910	5	1	17	45	62
Laredo	13	776	1	3	3	14	17
Somerset	3	38	0	0	2	6	8
Callihan	8	190	3	0	2	11	13
Rockdale-Minerva	5	219	2	0	3	10	13
Miscellaneous, S. W. Cos.	4	0	3	1	103	352	455
Total July	59	16,132	14	5	130	438	568
Total June	40	14,467	8	3	151	488	639
Difference	19	1,665	6	2	21	50	71
Grand total July	159	46,824	39	6	164	580	744
Grand total, June	134	26,297	44	10	177	602	779
Difference	25	20,527	5	4	13	22	35

WELLS COMPLETED

BATSON
Allen, East Batson Oil 6 20
Hodges, Kirby Petroleum 2 1500
Trustee, Duetser Oil 8 25
Wing, Gulf Production 160 65
Wells completed 4
Production 1610

DAMON MOUND
Smith, Humble Oil & Ref. 2 ..... abd
Mayes, Sinclair Oil & Gas 1 ..... abd
Wells completed and abandoned 2

EDGERLY
Wilson, Evans and Stovel 2 ..... sw
Moore, Green Oil 5 30
Lilliard, G. W. Gray 1 (w.o.) 50
Wells completed 3
Production 80
Salt water 1

GOOSE CREEK
Schilling, Humble O. & R. 33 (w.o.) .. 200
Harrell, Humble Oil & Ref. 3 ..... abd
Peninsula, Humble O. & R. 27 350
Smith, Humble Oil & Ref. 47 1000
Smith, Humble Oil & Ref. 58 100
Chapman-Bryan, Gulf Prod. 7 300
Smith, Gulf Prod. 18-A (w.o.) 50
H. Galliard, Gulf Prod. 2 (w.o.) 75
Smith Gulf Prod. 19 150
Briggs, Gulf Production 11 ..... abd
Galliard, Gulf Coast & U. C. Co. 37 . 350
Bartlett-Smith, Sun Co. 1 (w.o.) ..... sw
Schilling, Blakely Oil 7 (w.o.) 25
Bryan, Copeland Oil 5 450
Freenman, Goose Creek Oil 5 75
Wright, Southern Exploration 5 75
Wells completed 16
Production 3060
Abandoned and salt water 3

HUMBLE
Landslide, Southern Pet. 40 (w.o.) ... 50
Landslide, Southern Pet. 37 (w.o.) ..... sw
River, Sun Co. 19 3000
Lee, R. C. Hardin 1 ..... abd
Wells completed 4
Production 3050
Abandoned and salt water 2

HULL
Dolbear, Republic Prod. 51 (w.o.) 50
Dolbear, Republic Prod. 53 (w.o.) 100
Dolbear, Republic Prod. 81 100
Dolbear, Republic Prod. 84 850
Dolbear, Republic Prod. 86 40
Morris-Phillips, Gulf Prod. 11 (w.o.) . 1200
Hannah, Gulf Prod. 14 ..... abd
Barngrover, Houston Production 11 ... 450
Miller, Monarch Oil & Ref. 4 250
Stengler, Yount-Lee Oil 3 125
Merchant, Yount-Lee Oil 4 350
Ray, W. B. Flynn 4 30
Phoenix, Gulf Prod. 23 (w.o.) 2000
Phoenix, Gulf Prod. 36 (w.o.) 400
Baldwin, Gulf Prod. 10 500
Mecom, Mecom Oil 4 (dpnd) 2500
Hankmer, Humble Oil & Ref. 11 ..... sw
Marshall, Humble Oil & Ref. 5 ..... abd
Wells completed 18
Production 8945
Abandoned and salt water 3

JENNINGS
Letrielle, Rycade, Pet. 2 ..... abd
Jennings-Clement, Gulf Ref. 32 ..... abd
Fee, Fontenot Oil 5 ..... sw
Fee, Coastal Fuel Oil 80 10
Chicago-Jennings, F. I. Getty 11 30
Wells completed 5
Production 40
Abandoned and salt water 3

ORANGE
Hager, Gulf Prod. 4 (w.o.) 2100
Hager, Gulf Prod. 15 3500
Hager, Gulf Prod. 16 ..... dry
Hager-Moore, Gulf Prod. 11 150
Peveto, Gulf Prod. 7 200
State land, Rycade Pet. 4 30
State land, Rycade Pet. 5-E 2700
Winifree, Humble Oil & Ref. 4 (w. o.) .. 15
Winifree, Humble Oil & Ref. 10 175
Brown, Brown Babbitree Oil 4 800
Chesson, Orange Pet. 7 (dpnd.) 400
Berwick, Orange Pet. 2 (w.o.) 30
Carbello, Edgerly Pet. 1 (w. o.) 30
Granger, Sinclair Oil & Gas 2 10
Wells completed 14
Production 10140
Dry 1

PIERCE JUNCTION
Taylor, Gulf Production 16 ..... gas

SPINDLETOP
Trembly, Sheffield and others 1 ..... abd
Trembly, Baker Oil 1 ..... abd
Hogg-Swayne, Stella Oil 17 20
Gladys, Gulf Prod. 151 35
McFadden, Unity Oil 84 50
Wells completed 5
Production 105
Abandoned 2

SARATOGA
Bruce, Weldon Oil 5 12
210-B, Rio Bravo Oil 40
Queen City, Paggi Bros. Oil 42 ..... sw
Wells cmopleted 3
Production 52
Salt water 1

SOUR LAKE
Fee, The Texas Co. 288 (w.o.) 35
Fee, The Texas Co. 232 (w.o.) 40
Fee, Gilbert Oil 94 ..... abd
Dornack, Two Are Oil 1 ..... abd
Tarver-Hardin, Gulf Prod. 54 50
Hardin, Lake View Oil 38 160
Wells completed 4
Production 285
Abandoned 2

VINTON
Parks, Wilson & Tucker 3 150
Parks Wilson & Tucker 3 (w.o.) 75
Gray, Marrs McLean 5 (w.o.) 50
Lisso, Edgerly Pet. 1 (w.o.) 50
Vincent, Gulf Coast Oil 13 75
Green, Seiss Syndicate 8 200
Rescue, Vinton Pet. 1 1000
Gray, Vinton Pet. 417 100
G. N. G., Gulf Ref. 33 (w.o.) 50
G. N. G., Gulf Ref. 57 75
Johnson, Sun Co. 2 ..... abd
Wells completed 17
Production 1850
Abandoned 1

WEST COLUMBIA
Hogg, The Texas Co. 81 300
Robertson, Sun Co. 3 (w.o.) ..... sw
Abrams, The Texas Co. 11 500
Wells completed 3
Production 800
Salt water 1

MISCELLANEOUS (Gulf Coast)
High Island, Galveston County, Cade Sun Co. 6 400
High Island, Galveston County, Patton Oil 2300
Boling Dome, Wharton County, Gulf Co. 1 ..... abd
Thompson, Fort Bend County, Nellan O. & R. 3 ..... abd
Davis, Fort Bend County, Pathfinder Oil 3 ..... abd
Wells completed 5
Production 700
Abandoned 3

SOUTHWEST FIELDS

LULING
Allen, United North & South Oil 7-A . 1200
Allen, United North & South Oil 10 .. gas
Allen, United North & South Oil 11 . 1500
Hardeman, United North & South oil 1 (dpnd) ..... abd
Moore, United North & South Oil 1 800
Trammel, United North & South Oil 8 700
Baker, United North & South Oil 9 ... 300
Baker, United North & South Oil 10 .. 300
Baker, United North & South Oil 15 .. 500
Baker, United North & South Oil 19 . 1000
McKean, United North & South Oil 7 .. 800
Tobin, United North & South Oil 1 .... abd
C. Byrd, United North & South Oil 2 .. abd
Mercer, United North & South Oil 6-A 500
Mercer, United North & South Oil, 7-A 500
Roberts, United North & South Oil 2 .. 300
Forcey, C. C. Cannan 1 ..... abd
Hensle, National Pet. 1 ..... abd
Allen, Grayburg Oil 6 600
Allen, Grayburg Oil 9 600
McKean, Grayburg Oil 14 2000
McKean, Grayburg Oil 15 2000
McKean, Grayburg Oil 4 200
Harris, H. C. Thorman, 1 300
Allen, J. K. Hughes Dev. 7 800
Allen, The Texas Co. 8 110
Wells completed 26
Production 14,910
Dry 5
Gas 1

LAREDO DISTRICTS
Rydal Oil 1 150
Binney Oil 2 ..... gas
Associated Oil 1 ..... gas
Richmond-Garcia Oil 5 50
Richmond-Garcia Oil 6 125
Allsworth Brothers 2 125
Cornhuskers Oil 4 75
Laredo Oil 8 125
Laredo Oil 8 25
Bruni, Cole Petroleum 4 ..... gas
O. W. Killiam 1 ..... dry
Magnolia Petroleum 11 100
Dauchey & Bryant 1 ..... gas
Wells completed 13
Production 775
Dry 1
Gas 3

CALLIHAM (McMullen County)
Lark, Wilkerson & Lightfoot 1 60
Lark, Allen Oil 1 40
Callihan, Three Rivers Oil 3 40
Lark, Lightfoot Oil 2 40
Lark, Frio Oil 2 10
Nichols, Black Panther Oil 1 ..... abd
Mahoney, Everett and others 1 ..... sw
Mahoney, Darter & Stephens 1 ..... dry
Wells completed 8
Production 190
Dry, abandoned and salt water 3

ROCKDALE-MINERVA
Sharp, National Refining 1 ..... abd
Fee, Lee & Lee 1 175
Decamp, Don Gotem Co. 1 4
Roark, Noark Oil 3 ..... dry
Fee, Lee & Lee 2 40
Wells completed 5
Production 219
Dry and abandoned 2

MISCELLANEOUS (Southwest)
Jim Hogg County—
Marteaux, Henne, Winch & Farris 1 .. gas
Holbein, Weber Oil 3 ..... abd
McMullen County—
Shriner, Boyd Oil 1 ..... abd
San Patricio County—
John Sigmund 3 ..... abd
Wells completed 4
Abandoned 3
Gas 1
Gas production 50,000,000

BATSON
Rigs
Trustee, Duetser Oil 9.
Wing, Gulf Prod. 161.
Wells Drilling
Texas, Ada Belle Oil 77.
Paraffine, Paraffine Oil 57.
Hook, Campbell & Dorsum 2.
Milhone, S. R. Buchanan 77.
Hodges, Kirby Pet 2. (dpng.)
Rigs, 2; wells drilling, 5; total, 7.

BLUE RIDGE
Rig
Robinson, The Texas Co. 12.
Wells Drilling
Invincible, Gulf Production 1.
Blakely, Gulf Production 8-B.
West-Schenck, Gulf Production 5.
Rigs, 1; wells drilling, 3; total, 4.

BARBER HILL
Wells Drilling
McKinney, Kirby Pet. and Bennett 1.
Collier, Texas & Kirby Co. 1.
Wells drilling, 2.

BIG CREEK
Wells Drilling
Wheat, Gulf and Snowden & McSweeney 7.
Davis, Gulf and Snowden & McSweeney, 14, 15.
Ahlers, Rich and others 1.
Ahlers, Lee Production 2. (s.d.)
Wells drilling, 5.

DAYTON
Wells Drilling
Josey, Old Colony Oil 5.

DAMON MOUND
Well Drilling
Masterson, Sinclair Oil & Gas 1.

EDGERLY
Wells Drilling
Gilbert, G. W. Gray, 13 (w.o.)
Wilson, Evans & Stovell 2 (w.o.)
Wells drilling, 2.

GOOSE CREEK
Rigs
Smith, Humble Oil & Refining 59.
Bryan, Copeland Oil 6.
Wright, Gulf Production 21-A.
Wright, Southern Exploration 6.
Chapman-Bryan, Gulf Prod. 6.
Wells Drilling
State land, Gulf Production 11.
Hoffman-Galliard, Gulf Pro. 3 (w.o.)
Beaumont, Gulf Production 26, 29.
Smith, Gulf Production 19.
Hirsch, Gulf Production 3.
Chayman-Bryan, Gulf Production 5 (w.o.)
Busch, Hisgen Petroleum 3.
Gillette, Allen & Marshall 1.
Galliard, Gulf Coast & U. C. Co. 28.
Duke, Inca Petroleum 4.
Dannebaum, LaRue Oil 5.
Bartlett-Smith, Sun Co. 8 (w.o.)
Smith, Humble Oil & Refining 56.
Sweet, Humble Oil & Refining 26.
Galliard 25 Ac., Humble Oil & Refining, 14 (w.o.); 51.
Talb. Humble Oil & Ref. 11.
Rigs, 5; wells drilling, 18; total, 23.

HUMBLE
Rigs
Lee, R. C. Hardin and others 2.
River, Sun Co. 20.
Wells Drilling
Landslide, Southern Pet. 37 (w.o.).
Bissonnett, Deering and others 3.
Bailey, H. A. Cline 1.
Conway, S. A. Weed 1.
Herman, J. M. Hester 67.
Strange J. Fincher 1.
Texas, C. A. Gunter 3.
Stevenson, Galena-Signal Oil 41, 42.
Morris, R. B. Morris and others 2.
Bitler, Norton & Co. 1.
Rigs, 2; wells drilling, 11; total, 13.

HULL
Rigs
Phoenix, Gulf Production 43.
Miller, Monarch Oil & Ref. 9, 10.
Merchant, Yount-Lee Oil 10.
Merchant, Humble Oil & Ref. 3.
Hooks-Spells, Humble Oil & Ref. 10.
Dolbear, Republic-Houston Oil 26 (w.o.), 70 (w.o.); 13 (w.o.); 87, 88.
Barngrover, Houston Production 8.
Hannah, Texas-Vacuum Co. 3.
Mecom, Mecom Oil 6.
Taylor, Higgins Fuel Oil 2.
Hannah fee, Gulf Production 15.
Scarborough, Gulf Production 13, 7 (w.o.).
Thomas fee, Gulf Production 6.
Phoenix, Gulf Production 16, 29 (w.o.), 33.
Morris-Phillips, Gulf Production 12.
Rigs, 6; wells drilling, 17; total, 23.

JENNINGS
Rigs
S. F. S., Absher, trustee 1.
Wells Drilling
Jennings-Clement, Gulf Refining 34.
S. F. S., Calacadia Production 41.
Rigs, 1; wells drilling, 2; total, 3.

MARKHAM
Wells Drilling
Myers, Rycade Petroleum 2.
Sisk, Rycade Petroleum 1.
Wells drilling, 2.

ORANGE
Rigs
Hager fee, Gulf Production 2 (w.o.).
Winifree, Humble Oil & Ref. 5 (w.o.).
Wells Drilling
Winifree, Gulf Production 5-A.
Hager-Moore, Gulf Production 11.
Hammam, Gulf Production 1. sd.
State land, Tillery Oil 2.
Gunstream, Sun Co. 5.
Kato, Sun Co. 1. (dpng).
Chesson, Mutual Oil 2, 3, 12.
Chesson, Orange Pet. 6.
Chesson, Humble Oil & Ref. 19.
Cow bayou, Rycade Pet. 2, 4.
Hager, Atlantic Oil Prod. 3 (w.o.).
Winifree, Am. Natl Oil 1.
Rigs, 2; wells drilling, 15; total, 17.

PIERCE JUNCTION
Well Drilling
Ross, Atlantic Oil Prod. 1.

SPINDLETOP
Wells Drilling
Gladys, Gulf Production 207.
Gladys, Rycade Petroleum 1.
Sunshine, John Wynne 1 (w.o.).
Wells drilling, 3.

SARATOGA
Wells Drilling
BBBC, Gulf Production 22.
Fee, Sun Co. 70.
P.-R., Rio Bravo Oil 2.
C, Rio Bravo Oil 211.
Lewis, Paggi Bros. 4. sd.
Wells, drilling, 5.

SOUR LAKE
Rig
Tarver-Hardin, Gulf Production 26.
Wells Drilling
Fee, The Texas Co. 288.
Hardin, Lake View Oil 29.
B. & E., Sun Co. 58.
Hardin, Humble Oil & Ref. 33.
Rigs, 1; wells drilling, 4; total, 5.

VINTON
Rigs
G. N. G., Gulf Refining 66.
Rescue, Vinton Petroleum 3.
Parks, Wilson & Tucker 2.
Wells Drilling
Gray, The Texas Co. 25.
Gray, Edgerly Petroleum 1.
Gray, Gulf Refining 2.
G. N. G., Gulf Refining 33.
Star, Gulf Refining 32.
Lyons, Just Oil & Refining 3.
Weeks, Just Oil & Refining 1.
Rigs, 3; wells drilling, 7; total, 10.

WEST COLUMBIA
Wells Drilling
Tom Hogg, Gulf Production 6.
Hogg, The Texas Co. 86.
Badge, Humble Oil & Refining 2.
T. & W., Humble Oil & Refining 9.
Wells drilling, 4.

SOUTHWEST DISTRICTS
LAREDO
Rigs
Mid-Ojuias, Cornhuskers Oil 6.
Bruni, Cole Petroleum 5.
Bruni, Corporation Oil 1 Dill.
Wells Drilling
Caroline, Texas Oil 6.
Schott Pool, Allsworth Brothers 3.
Cranahan P. & R. 18.
Poor Boy Oil 1.
Laredo Oil 8 (dpng.).
Aviator Pool—Andrews Petroleum 3.
Associated Oil 11.
Rydal Oil 2.
Mid-Ojuias—Alonzo Oil 5.
Cin-Tex 4.
Oisan Oil 4.
Shasta Oil 7.
Wolcott Pool—Calumet Oil 1.
D. A. Jones 1.
Rigs, 3; wells drilling, 14; total, 17.

CALLIHAM
Rigs
Stitz, San Balt Oil 8.

Walsh, Kepley and others 1.
Wells Drilling
Fisher, Hoad and others 6.
Lark, Southern Natural Gas 9.
Lark, Wiklerson & Lightfoot 2.
Hicks, Coquet and others 1.
Callihan, Grubstake Investment 2, 3.
Callihan, Three Rivers Oil 3.
Jacobs, Pickett & Co. 1.
Lark, Watkins & Hull 1.
Stitz, Holliday and others 1.
Stitz, Everett and others 2.
Rigs, 2; wells drilling, 11; total, 13.

LULING
Rigs
Allen, United North & South Oil 25, 26, 27, 28, 29, 30.
Allen, K. Hughes Dev. 9, 10, 15.
Allen, Grayburg Oil 10, 11, 12.
Schubert, Magnolia Petroleum 11, 12.
Allen, The Texas Co. 10.
Baker, United North & South Oil 21, 22.
Wells Drilling
Allen, United North & South, 14, 15, 18, 19, 20, 21, 23, 24.
Allen, J. K. Hughes Dev. 9, 10, 15.
Allen, Grayburg Oil 7.
Marinos, United North & South 13, 14, 15.
Tabor, United North & South 14, 15, 18.
Rios, United North & South 7.
Gideon, United North & South 5 sd.
Baker, United North & South 12, 13, 14.
McKean, Grayburg Oil 16, 17.
Allen, The Texas Co. 9, 10, 11.
Merriweather, Rio Bravo Oil 11.
Merriweather, United North & South 5.
Schubert, Magnolia Petroleum 9.
Harris, H. C. Thorman 2, 3.
Tiller, United North & South 1.
McKean, Danciger Bros. 4, 5, 6.
River, Bassett & Miller 1 sd.
Jarmon, Moore Oil 6, 7.
Stairs, United North & South 6, 7 sd.
W. F. Mercer, United North & South 7, 8 sd.
Harris, J. K. Hughes Dev. 5 sd.
Rigs, 17; wells drilling, 45; total, 62.

WYOMING FIELDS

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Muddy ..	0	0	0	0	0	5	5
Salt Creek ..	67	12,345	2	0	68	118	186
Lance Creek .	0	0	0	0	0	4	4
Big Horn Basin ..	0	0	0	0	14	31	45
Lost Soldier .	6	300	3	2	9	41	50
Rock River ..	0	0	0	0	1	19	20
Fremont Co. ..	0	0	0	0	2	23	25
Osage	5	85	0	0	7	8	15
Natrona Co. .	0	0	0	0	0	21	21
Lincoln Co. .	1	30	0	0	2	5	7
Baxter Basin.	1	0	1	0	2	9	11
Miscellaneous	0	0	0	0	3	11	14
Total July..	80	13,760	6	2	108	295	403
Total June.	64	10,003	1	3	118	336	454
Difference..	26	3,757	5	1	10	41	51

MONTANA

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Cat Creek ...	2	75	1	0	1	21	22
Sunburst	21	6,125	8	0	14	34	48
Miscellaneous..	3	0	3	0	5	68	73
Total July.	26	6,200	12	0	20	123	143
Total June.	16	585	6	1	31	154	185
Difference..	10	5,615	6	1	11	31	42

COLORADO

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
All fields.....	2	50	0	1	8	39	47
Total June.	0	0	0	0	11	36	47
Difference...	2	50	0	1	3	3	0

UTAH

District—	Rigs	Drg.	Ttl.
All fields	1	25	26
Total June	1	29	30
Difference	0	4	4

NEW MEXICO

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
All fields ...	0	0	0	2	12	14	
Total June.	3	600	1	0	3	10	13
Difference...	3	600	1	0	1	2	1

BIG MUDDY FIELD
Shut Down
8-33-76 Humphrey, Mutual Oil Co. 38.
2-33-76 Fenix, Mutual Oil Co. 4.
8-33-76 Carey, Texas Production Co. 32.
4-32-77 Big Bear Oil Co. 1.
15-33-76 Whiteside, Mutual Oil Co. 3.

SALT CREEK
Rigs
1-39-79 Dain 9, Ohio Oil Co. 17.
20-39-78 Tract ET, Ohio Oil Co. 7.
12-39-79 Castle Rock, Ohio Oil Co. 10.
12-39-79 East Half, Ohio Oil Co. 24.
35-40-79 SW, Wyo. Associated 23-AX.
14-40-79 NW, Wyo. Associated 19A.
26-40-79 NW, Wyoming Associated 15-A.
14-40-79 NW, Wyoming Associated 4-A.
1-39-79 NW, Wyoming Associated 19-A and 22-A.
30-40-78 SW, Wyoming Associated 12-A.
30-40-78 SW, Wyoming Associated 9-A.
31-40-78 SE, Salt Creek Cons. 33-A.
26-40-79 SW, Midwest Oil 13-AX.
26-40-79 NW, Midwest Oil 18-A.
14-40-79 SE, Midwest Oil 3-A.
1-39-79 NW, Midwest Oil 10-A.
11-40-79 SW, Midwest Oil 33-A.
22-40-79 NE, Midwest Oil 2-A.
13-40-79 SE, Mt. & Gulf 33-A.
6-39-78 NE, Mt. & Gulf 21-A, 22-A, and 15-A.
6-39-78 NE, Producers & Refiners 24-A.
2-40-79 SE, Producers & Refiners 36-AX.
16-39-78 NW, Marine Oil Co. N-4.
13-40-79 Marine Oil Co. 5.
5-39-78 NW, Western States 16-A.
18-40-78 SW, Continental Production W-2 and W-7.
32-40-78 NW, Continental Production B-10, and B-12.
32-40-78 SW, Continental Production B-14.
5-39-78 SW, Carter Oil Co. R-11 and R-10.
30-40-78 NE, Bonfils Oil Co. 31-A.
2-39-79 SE, Sinclair Wyoming 14.
34-40-79 SW, Mutual Oil Co. 25-A.
6-39-78 NW, Staley Syndicate 11.
26-40-79 NW, Wyoming Associated 21-A.
26-40-79 SW, Wyoming Associated 19-A.
34-39-78 SW, Mammoth Oil Co. 302.
34-39-78 NW, Mammoth Oil Co. 205.
28-39-78 NW, Mammoth Oil Co. 204.
33-39-78 NE, Mammoth Oil Co. 405.
28-39-78 SE, Mammoth Oil Co. 406.
13-39-78 SE, Bessemer Oil Co. 2-AX, and 12-AX.
13-39-78 SE, Blackstone Salt Creek F-4.
11-39-79 NE, Kasoming Oil Co. B-11 and B-4.
17-39-78 SE, Marine Oil Co. 2.
2-39-79 SE, Sinclair Wyoming 11.
10-40-79 SE, Empire States Oil Co. 24-A.
2-39-79 SW, Mutual Oil Co. 12-A and 29-A.
11-39-79 SW, E. T. Williams 2-A.
13-38-78 SW, Wyoming Teapot Oil Co. 1.
16-39-79 NE, Nicholaysen et al 1.
8-39-78 SW, Western States 21-A.
10-38-78 NW, Mammoth Oil Co. 202.
19-40-78 NE, Norris Oil Co. 18-A.
25-40-79 NE, Midwest and Wyoming Associated 13-A.
27-40-79 NE, Wyoming Associated 11-AX.
26-40-79 SE, Wyoming Associated 19-AX.
14-40-79 SE, Wyoming Associated 4-A.
24-40-79 SE, Wyoming Associated 18-A.
34-40-79 SE, Salt Creek Cons. 33-AX.
31-40-78 NW, Salt Creek Cons. 30-A.
14-40-79 NE, Midwest Oil 34-A and 33-A.
1-39-79 NE, Midwest Oil 19-A.
35-40-79 NE, Midwest Oil 34-A.
35-40-78 SW, Midwest Oil 24-A.
5-39-78 NW, Carter Oil Co. B-8.
17-39-78 NE, Carter Oil Co. T-12.
18-40-78 SW, Woykans (Marine) 6.
20-39-78 SW, Marine Oil Co. T-8.

Wells Drilling
1-39-79 Dain 9, Ohio Oil 16.
12-39-79 Castle Rock, Ohio Oil 9.
13-39-79 Tract O, Ohio Oil 5.
20-39-78 Tract ET, Ohio Oil 6.
27-40-79 Columbia 2, Ohio Oil 12.
24-40-79 SE, Wyoming Oil Fields 19-AX.
34-40-79 NW, Wyoming Associated 24-AX.
1-39-79 NW, Wyoming Associated 24-A.
3-39-79 SE, Salt Creek Consolidated 30-AS.
27-40-79 SW, Salt Creek Cons. 26-A.
31-40-78 SW, Salt Creek Cons. 4-A.
18-40-78 NW, Salt Creek Cons. 34-A.
27-40-79 SE, Midwest Oil 18-A.
34-40-79 NE, Midwest Oil 1-A.
27-40-79 NE, Midwest Oil 20-A.
36-40-79 NE, Midwest Oil and Wyoming Associated 32-A.
36-40-79 SW, Midwest Oil and Wyoming Associated 23-A.
7-39-78 NE, Kasoming Oil E-2 and E-3.
15-40-79 SE, Producers & Refiners 9.
19-40-78 NW, Producers & Refiners F-3.
19-40-78 NW, E. T. Williams 4-A.
20-39-78 SW, Marine Oil Co. T-7.
19-40-78 SE, Kinney Coastal 26-A.
5-39-78 NW, Western States 21-A.
5-39-78 SE, Carter Oil Co. D-6.
5-39-78 SW, Carter Oil R-9.
5-39-78 NE, Carter Oil D-10.
17-39-78-NE, Carter Oil P-11.
10-39-79 NE, Mutual Oil 26-A.
8-39-78 NW, Mutual Oil 4-A.
32-40-78 SW, Mutual Oil 34-A and 29-A.
2-39-79 SW, Mutual Oil 25-A.
20-39-78 SE, Mammoth Oil 409 and 410.
11-40-79 NW, Midwest Oil 13-A.
20-39-78 NW, Producers & Refiners D-13.
19-40-78 SE, Continental Production C-2.
22-40-79 NE, Midwest Oil 30-A.
30-40-78 SE, Wyoming Associated 16-A.
22-40-79 NW, Kasoming Oil B-28.
7-39-78 SE, Mutual Oil 1 and 2.
12-40-79 NE, Empire State 32-A.
24-40-79 SE, Wyoming Oil Fields 22-A.
23-40-79 NW, Wyoming Oil Fields 34-X.
24-40-79 SW, Wyoming Oil Fields 31-A.
26-40-79 NW, Wyoming Associated 8-AX.
24-40-79 SE, Wyoming Associated 15-A.
24-40-79 SW, Wyoming Associated 13-AX.
2-39-79 NE, Wyoming Associated 4-A.
26-40-79 NW, Wyoming Associated 3-AX.
30-40-78 SE, Wyoming Associated 21-A.
23-40-79 NE, Wyoming Associated 22-A.
24-40-79 NW, Wyoming Associated 34-A.
15-40-79 NE, Wyoming Associated 34-A.
35-40-79 NW, Wyoming Associated 33-X.
15-40-79 SE, Wyoming Associated 1-AX.
30-40-78 SE, Wyoming Associated 7-A.
2-39-79 NE, Wyoming Associated 24-A.
3-39-79 NE, Salt Creek Cons. 35-A.
3-39-79 NE, Salt Creek Cons. 15-A.
11-39-79 NW, Salt Creek Cons. 3-A.
18-40-78 SW, Salt Creek Cons. 22-A.
3-39-79 SE, Mt. & Gulf 14-A.
11-40-79 NE, Mt. & Gulf, 33-A and 34-A.
6-39-78 NW, Mt. & Gulf 29-A.
13-40-79 SE, Mt. & Gulf 22-A.
7-39-78 NW, Mt. & Gulf 15-A.
7-39-78 Tract E, Ohio Oil 3.
17-39-78 Tract G, Ohio Oil 2.
12-39-79 East Half, Ohio Oil 24.
2-39-79 NW, Midwest Oil 23-X.
26-40-79 SE, Midwest Oil 3-A.
35-40-79 SW, Midwest Oil 16-A.
11-40-79 SE, Midwest Oil 3-A.
22-40-79 NE, Midwest Oil 10-A.
1-39-79 NE, Midwest Oil 12-A.
30-40-78 NW, Utah Oil & Refining 25-A.
13-40-79 SE, Mt. & Gulf 34-A.
6-39-78 NE, Mt. & Gulf 3-A.
6-39-78 NW, Mt. & Gulf 7-A.
18-39-78 NW, Producers & Refiners D-1.
6-39-78 NE, Producers & Refiners 16-A.
30-40-79 SE, Producers & Refiners 9.
19-40-78 NE, E. T. Williams 25-X.
17-39-78 SE, Marine Oil 7.
32-40-78 SE, Kinney Coastal 30-A.
28-40-79 SW, Jupiter Oil Co. 27-A.
5-39-78 NE, Western States, 19-A and 30-A.
19-40-78 SE, Continental Production C-3.
32-40-78 NW, Continental Production B-11.
5-39-78 NW, Carter Oil D-7.
1-39-79 SE, Mutual Oil 29-A.
2-39-79 SW, Mutual Oil 11-A and 34-A.
5-39-78 NW, Western States 16-A.

Shut Down
31-40-78 NW, Salt Creek 15-A.
27-40-79 SE, Midwest Oil 31-AX.
34-40-79 SW, Mutual Oil 35-A.
19-39-78 NW, Continental Prod. R-3.
18-40-78 SW, Continental Prod. W-1.
28-40-79 SE, J. C. Smith S-1.
29-39-78 NE, Mammoth Oil 108.
28-39-78 NE, Mammoth Oil 101-A.
10-38-78 NE, Mammoth Oil 101.
21-39-78 SW, Mammoth Oil Co. 304.
28-39-78 SW, Mammoth Oil 302.
28-39-78 NW, Mammoth Oil 205.
4-38-78 NE, Mammoth Oil 101.
23-39-79 SE, Evans Oil 1.
29-40-78 NW, Omaha Lusk Oil 1.
35-39-78 SW, Teapot Dome Syndicate 15-A.
2-38-78 SE, Teapot Dome Syndicate 34-A.
2-38-78 NE, Teapot Dome Syndicate 18-A.
24-39-79 NE, Mutual Oil Co. 22-AS.
Rigs, 68; wells drilling, 118; total, 186.

LANCE CREEK
Wells Drilling
28-35-65 NE, Buck Creek Oil 6.
5-35-65 Lamb, Ohio Oil 1.
26-35-65 Rodeo, Buck Creek Oil.
Shut Down
18-35-65 NE, Union Oil 1.
Wells drilling, 4.

BIG HORN BASIN
Rigs
30-58-99 Elk 5, Midwest Refg. Co., 16, 71.
17-46-98 Washakie, Ohio Oil 1.
2-44-96 F. A. McPherson.
19-46-98 Meeteetse, Midwest Refg. 16-A.
1-47-100 NW, Midwest Refg. 1.
2-47-100 NE, Midwest Refg. 2.
4-50-100 NW, Florence Oil Co. 1.
10-54-95 Westland Oil 1.
23-40-93 Flavin Oil 1.
5-47-90 Hetzler, Ohio Oil 1.
7-46-98 Washakie, Ohio Oil 1.
20-53-101 Gutterman et al 1.
11-49-102 T. N. Clark et al 1.
Wells Drilling
26-46-100 NE, Producers & Refiners 1.
35-43-91 Black, Mt. Utah Oil & R. 2.
11-45-97 SE, Midwest Refg. 1.
31-48-90 Broome, Ohio Oil 1.
18-46-98 Washakie, Ohio Oil 4.
20-46-98 Milliron, Ohio Oil 68.
18-45-98 Wylie, Ohio Oil 19.
17-42-95 Markham & Wood.
3-55-97 Royalty Holdings 1.
33-56-97 Cross, Ohio Oil 1.
30-56-97 Producers & Refiners 1.
8-51-100 Sonners, Ohio Oil 1.
35-33-100 Union Oil 1.
4-50-100 Oregon Basin, Flynn & Ache 1.
21-53-101 Cody O. & G.
11-49-102 Omar O. & G.
19-56-97 NE, Utah Southern Oil 1.
19-46-98 Ridgely, Midwest Refg. 19-A.
13-45-93 Washakie, Midwest Refg. 1.
18-46-98 SW, Midwest Refg. 20-A.
3-42-92 NE, Union Oil Co. 1.
17-42-95 NE, Murphy Mutual Oil Synd.
11-49-102 Florence Oil 1.
Shut Down
12-45-97 Midwest Refining.
2-56-97 Jones, Allen Oil 1.
32-58-99 Thompson-Flk Basin Oil Co.
31-48-100 Midwest Refg. 1.
3-56-97 Griffith, Allen Oil 1.
25-58-100 Beck Pet. 1.
16-47-100 Big Horn Dev. Co. 1.
21-53-101 Pitts & Southwestern.
Rigs, 14; wells drilling, 31; total, 45.

LOST SOLDIER AND CARBON COUNTY
Rigs
11-26-90 Kasoming O.I 4-B and 1-C.
22-26-87 Govt. Land, Sand Hills Oil 1.
26-25-89 NE, Prod. & Refining 2.
16-25-86 NW, General Pet. 4.
31-25-86 Govt. Land, Gen. Pet. 3 and 4.
10-26-90 U. S. Pet.
8-26-86 Govt. Land, Gen. Pet. 1.
Wells Drilling
4-26-90 Sand Hills Oil 4.
22-26-89 Prod. & Refg.
34-23-79 NE, Central Pipe Line.
5-23-89 Utah O. & Refg. 1.
26-23-88 Bair Oil 1.
24-26-87 SW, Prod. & Refg. 20.
12-26-90 Texas Prod. Co.
3-26-90 Texas Prod. Co. 2.
2-26-90 Utah Oil & Refg. 1-A.
35-25-88 M. M. Armstrong.
14-25-89 Govt. Land, Producing & Ref. 1.
1-23-89 Producing & Refining 1.
7-26-89 Producing & Refining 2, 3, and 4.
33-26-88 SE, Producing & Refining 2.
25-26-89 SE, Hughes Royalty 1.
34-27-90 Annabelle Wyoming 1.
25-26-89 Producing & Refining 1.
25-26-88 Kasoming D-2.
34-26-88 SE, Kasoming Oil C-2.
26-26-88 SE, Kasoming Oil 1.
35-20-88 SE, Hatfield Oil 1.
11-26-90 Kasoming Oil, 49-A, 27-A, and 1-A.
27-26-87 Producers & Refiners 23.
25-26-87 Producers & Refiners 10.
Shut Down
2-26-90 SE, Producers & Refiners 1.
24-26-87 Producers & Refiners 20.
25-26-86 Producers & Refiners 22.
2-25-87 Government Land, Gen. Pet. 1.
16-25-86 Govt. Land, Gen. Pet. 3.
3-25-87 Govt. Land, Gen. Pet. 1.
31-26-86 Govt. Land, Gen. Pet. 1.
28-26-88 Govt. Land, Columbia Pet. 1.
25-26-89 SW, Bair Oil F-1.
26-26-88 Portland Wyoming 1.
9-25-86 SE, Sand Hills Oil 1 and 2.
23-26-87 SE, Marvin Oil 1.
Rigs, 9; wells drilling, 41; total, 50.

ROCK RIVER FIELD
Rigs
Rex Lake Dome, Laramie O. & Dev. 1.
Wells Drilling
27-16-77 U. P., Ohio Oil 1.
34-20-78 Ohio Oil 9.
32-16-74 Spindle Top Oil 1.
11-19-78 H. & C., Ohio Oil 4.
23-16-77 U. P., Ohio Oil.
36-21-78 NW, Southwest Pet. 1.
14-16-75 SE, Wyo. Hollow Basin Oil 1.
26-21-79 SW, Southwest Pet. 2.
25-21-79 SE, Southwest Pet. 1.
26-16-77 Coughlin, Ohio Oil 2.
32-16-74 Govt. Land, G. A. Briggs et al 1.
20-21-80 U. P., Prod. & Ref. 1.
Shut Down
12-19-78 Prairie Dog O. & G. 1.
4-19-78 Hutton Lake Oil.
18-15-75 Apex Refg. Co.
18-15-75 Pet. Oil Fields Co.
12-20-77 Govt. Land, McLaughlin et al.
10-18-77 Govt. Land, Carbon County Oil.
32-21-78 Govt. Land, Ross et al.
Rigs, 1; wells drilling, 19; total, 20.

FREMONT COUNTY
Rigs
22-32-95 Sand Draw, Prod. & Ref. 1.
27-34-90 Texas Prod. Co. 3.
Wells Drilling
35-43-91 Utah Oil & Ref.
25-27-93 American Workers Oil Co.
23-32-95 Prod. & Ref
26-37-74 Wyo. Synd. 1.
15- 6- 2 SW, Union Oil 13.
27-34-95 Dutton Basin, Texas Prod. Co. 3.
18-27-95 SW, Sage Creek Pet.
15-34-90 Ward Oil Co. 1.
34- 6- 3 Kinney Coastal 2.
15-32-95 Sand Draw, Prod. & Ref. 3.
28-34-90 Ward Oil Co.
9-32-95 NE, Prod. & Refg. 2.
22- 1- 1 McDonald et al.
4-31-98 Derby Dome Wyo. Oil.
4-31-98 Burnside Oil Co.
24-33-90 Dutton Basin, Myers Pet. Co.
Shut Down
6- 6- 2 Union Oil 1.
5-32-94 McLennan & Ketch.
26- 5- 2 Connelly Oil & Land Co.
Derby Dome, Derby Dome Wyo Oil 8, 9.
14-35- 2 Sand Draw, Prod. & Refg. 1.
Maverick Springs, Maverick Springs Dev. 1.
Rigs, 2; wells drilling, 23; total, 25.

OSAGE FIELD
Rigs
31-27-63 West Royalty Oil Co.
Faucett Ranch, Manlove et al 1.
31-46-63 Clark et al 1.
17-46-63 LaFleich Oil Co.
19-46-63 Sinclair Wyo.
31-46-63 Lush Royalties Co. 1.
20-46-63 Sankey & Stahl 3.
Wells Drilling
11-45-64 Frederick Oil 1.
5-46-63 Fletcher Bros.
20-46-63 Byron, Gardner Co. 3.
31-46-63 Tom Don.
17-46-63 LaFleich Oil Co.
Shut Down
6-46-63 Osage Trust Co.
21-45-63 Bachelor Oil Co.
8-45-63 Griffith Oil Co.
Rigs, 7; wells drilling, 8; total, 15.

NATRINA COUNTY
Wells Drilling
7-36-81 Columbus Oil 1.
15-34-87 NE, Mutual Oil 1.
32-37-81 California Oil 1.
36-37-82 SW, Midwest Ref. 1.
31-40-80 Comet Synd. 1.
Poison Spider, Fargo Oil Co. 24, 25, 26.
10-36-85 Boone Dome, New York Oil.
12-32-83 New York Oil 10.
9-35-85 New York Oil 4.
20-37-82 NW, Wyland Synd. 1.
28-11-81 Tisdale, Midwest Ref. 1.
23-34-82 Bradford Wyo. Oil Co. 1.
22-36-82 Gothberg Dome, California Oil.
Schnoor Dome, Kinney Coastal Oil Co.
Shut Down
35-35-84 Alaska Dev. Co. 3.
2-34-84 California Oil Co.
12-34-84 Cheney et al.
Lox Dome, Lox Syndicate.
9-41-80 Pat O'Connor 1.
Rigs, 0; wells drilling, 21; total, 21.

LINCOLN COUNTY
Rigs
31-28-113 Magie & Horn, Tip Top. Synd.
1-28-113 Midwest Refg.
Wells Drilling
3-26-113 Wyoming Reserve Oil Co.
27-27-113 Wyotah Oil & Gas 2.
3-26-113 Superior O. & G.
Shut Down
Afton Dist., Idaho Wyo. Oil 1.
1-28-114 Lackey et al 1.
Rigs, 2; wells drilling, 5; total, 7.

BAXTER BASIN
Rigs
27-17-104 Montacal Oil 1.
7-17-103 Petrogas Oil 1.
Wells Drilling
26-17-104 NW, Prod. & Ref. 1.
22-16-104 Pocton Permit, Ohio Oil 1.
Shut Down
10-16-104 SE, Midwest Refg. 29.
10-16-104 NW, Midwest Refg. 36.
2-17-104 NE, Midwest Ref. 1.
36-18-104 NE, Midwest Ref. 1-X.
25-18-104 Midwest Ref. 29.
30-18-104 Midwest Refg. 6-AX.
8-16-104 Montacal Oil.
Rigs, 2; wells drilling, 9; total, 11.

MISCELLANEOUS
Rigs
Burris Dome, Salt Creek Mont. Claim.
21-31-79 Irvine Dome, Big Sioux Oil.
28-42-79 Burris Dome, Seattle Synd.
Wells Drilling
17-46-82 Tarrant Synd. 1.
20-21-80 Prod. & Refg. 1.
Buffalo Dist. Kinney Coastal 1.
20-21-80 Prod. & Ref. 3.
16-21-80 Prod. & Ref. 1.
21-48-82-Carter Oil 3.
17-48-82 Carter Oil 4.
26-27-61 Platte Wyo. Oil Co.
Shut Down
16-48-82 Carter Oil 1.
Lingle Dist. Matthew Foreman et al.
18-39-68 Glendon Oil & Gas 1.
Rigs, 3; wells drilling, 11; total, 14.

MONTANA
CAT CREEK
Rigs
12-15-28 NE, Shaffer Oil Co.
Wells Drilling
31-15-30 Michael Maser et al.
8-15-29 Mutual Oil.
7-15-29 NW, Fifty-Six Pet.
12-15-29 Catlett, Mid-Northern Oil.
9-15-27 Peerless Oil 2.
23-14-28 Winnets Pacific Oil 1.
1-15-28 Custer O. & G.
28-16-28 Republic Peerless Oil.
9-15-29 NE, Frants Corp.
7-15-25 NW, Hogan Oil 2.
9-15-29 Mid-Northern Oil.
29-14-29 Flatwillow Oil.
27-15-30 Frants Corp.
Shut Down
10-15-29 Fifty-Six Pet.
22-15-30 A. D. Miller et al.
11-15-30 Helena Cat Creek Oil.
20-15-30 Montacal Oil.
8-15-29 Logan Corp.
15-15-30 Mont. Synd.
24-15-30 Swartz et al.
11-15-30 Miles City Oil.
Rigs, 1; wells drilling, 21; total, 22.

SUNBURST FIELD
Rigs
34-35- 3 Lewis, Lewis Kevin Oil Co.
11-35- 2 Stockman Bank, Ohio Oil 2.
10-35- 2 Bruins, A. Beardsley.
2-34- 2 Shoemaker, Lilly et al.
33-35- 2 Halloran, Homestake Exploration.
4-34- 2 Corey, Johnson Oil Synd. 2.

7-35- 1 SW, Hager, Stevenson Oil.
25-35- 2 Kashin, Ohio Oil 1.
20-35- 2 Whitman, Homestake Explo. 1.
30-35- 2 Heckla Oil Co. 1.
7-32- 2 Mutual Oil Co.
30-32- 2 Crumley McKnight 1.
26-35- 2 Beaver Montana Oil 2.
30-35- 1 Stannard Wallace Oil.

Wells Drilling

12-35- 2 Barth, Hager Stevenson Oil.
5-35- 2 Britton, Mid-Northern Oil.
29-35- 1 Anderson, Sylvester Oil 5.
8-34- 2 Falck, Lilley Snowcap Oil.
34-36- 2 Davey, Ohio Oil 9.
30-35- 1 Maughan, Ohio Oil 1.
33-36- 2 Roundsley, Ohio Oil 1.
31-35- 2 Tibbetts, Guy Craig et al.
3-34- 2 Swift, Spartan Montana Oil.
4-34- 2 Storm, Van Meer Oil.
2-34- 2 Steel, Big West Oil.
12-36- 2 Roundsley, Sunburst O. & G.
12-35- 3 Newman California Co. 3.
36-35- 3 State Lease, Featherstone et al.
21-34- 1 Stockman Bank, Potlatch O. & G.
24-32- 1 Shelby Synd. 1.
25-37- 2 MacAlpine, Spartan Oil 1.
20-35- 2 Halter, Sunburst Prod. 2.

Shut Down

24-35- 2 Zimmerman, Wells Oil Co.
4-34- 2 Hurley, Bill Thomas Oil & Gas.
2-35- 3 Baum, Colfax Pet. Co.
2-34- 2 Moore, Elliott & Callender.
12-35- 1 Webb, Shelby Oil & Gas.
21-35- 1 White, Jones Oil 1.
2-33- 1 Seward, Sunburst Oil 1.
18-32- 4 Beck Petroleum 1.
13-34- 1 Peterson, Lucky Forty Oil Co.
21-35- 2 McGowan, Holding & Royalty Oil.
12-35- 3 Campbell, Campbell Synd. 5.
16-34- 2 NW, Rainbow Oil Co.
21-35- 3 NW, Shaffer Oil 1.
1-34- 2 NE, Sunburst O. & G.
13-35- 3 Godertz, Campbell Syndicate No. 1, 8.
2.35-1 Skilton, Sweetgrass Arch Oil Co.
Rigs 14; wells drilling, 34; total 48.

MISCELLANEOUS

Rigs

Livingston Dome, Whiteside et al.
Porcupine Dome, Stellar O. & G.
Great Falls Dist., Virgelle Oil Co. 1.
24-15-15 Fullerton Oil Co.
12-10-32 Higgard Oil Co.

Wells Drilling

9-31-19 Deny, California Co. 1.
35- 7-13 Churchwell et al.
11- 1-39 NE, Absaroka 3.
28- 1-21 Moddrell, Mid-Northern Oil.
13- 1-21 Putnam, Mid-Northern Oil.
5- 2-24 NE, Pennsylvania-Kentucky Oil 1.
28-16-27 NE, Greer Bros.
21-14-28 Flatwillow, Blackhawk Oil.
14-14-25 Flatwillow, AMZ Syndicate.
25-35- 2 Adams, Anderson Invest. Co.
1-34- 1 Adams, Anderson Invest. Co.
28-16-27 Brush Creek Synd.
13- 1-21 Putnam, Midwest Refg. 33.
24- 4-21 Absaroka Oil & Dev.
24- 5- 9 Potter Basin O. & G.
8- 4-23 NE, Hoosier Oil Co.
28- 8-21 Absaroka Oil & Dev.
18-32- 4 Beck Petroleum.
18- 2-23 Securities Prod. Co.
26-16-26 Winnett Shallow Oil Synd.
24- 7-16 NE, California Co. 1.
29-11-23 Mont. Pioneer Oil 2.
23-25-20 Butler Oil & Gas.
24-30-12 Continental Prod. 1.
17- 3-19 Snyder, Mid-Northern Oil 1.
22-23-12 Hager Stevenson 1.
7- 4-23 Security Pet. 1.
7- 4-23 Security Pet. 1.
4- 17-20 California Co.

Shut Downs

20-25- 5 Larson, Walter Bright.
2-26- 6 Edmund Jones, Walter Bright.
32-32- 3 Reese, Greater Great Falls Oil Co.
23-36- 2 Benser, Drake Oil Co.
13- 3-23 SW, Securities Prod. 4.
9-11-24 NW, Absaroka O. & Dev.
21-14-28 Blackhawk Oil.
21-30- 3 Turner, Fergus Oil & Gas.
23- 2-25 McMennanin et al.
18- 6-24 Minnemyer & Newman.
2-12-26 Minnesota Flatwillow.
15-27- 7 Kelly, Empire Oil Co.
18-24- 7 Cascade Oil & Gas.
6-13-14 Fulton Oil Co.
26-14-20 NW, Jackson Dome Oil.
7-27- 1 Tri City Oil Co.
18-26-26 Walker Bros.
12-11-23 Armstead Oil Co.
Devils Basin, Alberta Block Coal Co.
Big Coulee, Midland Petroleum.
12-18-13 Arrow Creek Petroleum.
26-13-25 Wayne Petroleum.
25- 7- 7 Gladys Belle Oil Co.
Coalwood Dome, Annamay Oil Co.
Hailstone Basin, Hailstone Basin Oil Co.
Devils Basin, Montana Central Oil.
Devils Basin, Monarch Oil.
24- 5-17 Unit Oil & Gas.
23- 2- 5 Fox et al.
23- 3-24 Davis Creek Syndicate.
32- 5-28 Beauvois Oil Co.
13-11-13 Kalispel Syndicate.
6- 5-25 Grey Eagle Oil Co.
22-11-24 Success Refg. Co.
8-26- 1 Montana Idaho Oil Co. 1.
20-30- 1 A. M. Barringer.
31-15-45 Crowrock Oil Co.
6- 6-17 Armstead Oil Co.
2- 2-26 Clarks Fork Oil Co.
11- 1- 1 Ruby Ridge Oil Co.
Rigs, 5; wells drilling, 63; total, 73.

UTAH

Rigs

27-41-19 Utah Southern Oil.

Wells Drilling

23-42-17 Govt. Land, Monumental Oil.
Virgin Field, Gustaven Oil Co.
Rozal Dist., Leouna Mining & Milling.
Rozal Dist., Lake Side Oil Co.
34-25-21 Big Six Oil Co.
31-40-18 Texas Prod. 1.
22- 3-24 SW, Prod. & Ref. 1.
16- 2- 5 State Land, Western Empire Oil.
23-42-17 Govt. Land, Monroe Oil Co.
6- 2- 6 Ohio Oil Co. 1.
Crescent Dome, Crescent Eagle Oil Co.
31-22-18 Union Oil of Utah.
Diamond Fork, Gustaven Oil Co.

Shut Down

12-19-18 Utah Oil & Ref.
17- 4- 6 Utah Southern and Ute Pet.
18-14- 9 Castle Dale Oil.
27-16- 4 Producers Oil Co.
Lakeside Dome, W. R. Holmes.
Diamond Fork, Franco Utah Oil Co.
25-13- 1 Cash Valley Oil Synd.
2-17- 3 Utah Central Oil Co.
Harrisburg Dome, Virgin Oil Co.
Evans Claim, Uinta Oil Co.
Hill Creek, Hill Creek Oil & Ref.
Hill Creek, Mutual Oil Co.
Rigs, 1; wells drilling, 25; total, 26.

COLORADO

Rigs

29-10-68 Wellington, American Pet. Co.
2- 9-69 Douglas Oil Co.
12-38-70 Green Mt. Pet. Co.
31- 9-68 Midway Oil & Gas.
10- 2-70 NW, Mullin Synd.
27- 2-70 Rainbow O. & Dev.
7- 9-68 Union of California.
14- 4-92 Ahern, Yarg Prod. Co.

Wells Drilling

33- 5-91 Weyand, Texas Prod. Co.
16- 4-91 State Land, Texas Prod. Co.
9- 4-91 Meyers, Texas Prod. Co.
28- 5-91 NE, Hamilton Salt Creek Co.
32- 4-89 Beaver Creek, Transcontinental Oil Co.
24- 4-93 Axial Basin, California Co.
32-31-65 Union Oil of California.
30- 8-68 NW, Union of California.
22-29-13 Farmington Pet. Co.
28- 5-91 Texas Prod. Co.
34- 5-91 Rennie, Texas Prod. Co.
16- 4-69 State, Midwest Refining Co.
22- 4-92 Illes Dome, Midwest Refg. Co.
23- 8-104 Peerless Oil Corp.
28- 2-70 Haystack Structure, Sand Hills Oil Co.
6- 9-69 NW, State, Union of California.
8- 9-68 NE, Union of Colorado.
28- 2- 7 Gehring, I. A. Deline et al.
31- 2-96 White River Dev. Co.
2-11-33 Gem State Pet. Co.
15-21-64 Haw & Allen.
25- 5-99 Elk Springs Dev.
28- 2-70 Sand Hills Oil Co.
Pueblo Dist., Chico Basin O. & G. Co.
24- 9-69 SW, Wellington Oil Corp.
25-32-13 J. A. Leidecker et al.
28- 2-70 Ohio Oil Co. 1.
22-32-13 Love et al.
23-31-65 Colorado Oil Co.
32-30-63 Sedalia O. & Ref.

Shut Down

28- 3-64 Eman Oil Co.
19- 5-68 Dry Creek O. & G.
1-22-60 Jones Point Oil Co.
36- 8-62 Estes Park & Big Basin Oil Co.
18-20-46 Ne-No-Shee Oil Co.
35-22-65 San Carlos Oil Co.
30-20-62 Eagle Rock Oil Co.
3-35-58 Las Animas Synd.
5-26-65 Moody Lake Oil Co.
Rigs, 8; wells drilling, 39; total, 47.

NEW MEXICO

Rigs

15-23-24 Floresheim Oil Co.
5-30-13 H. L. Williams.

Wells Drilling

3-27-17 SW, Prod. & Ref.
17-28-18 SW, Gypsy Oil Co.
20-32-13 H. L. Williams 3.
17-31-18 H. L. Williams 4.
8-30-13 H. L. Williams 5.
23-23-13 Roy T. Clapp.
23-23-11 Bisti Oil Co.
Ute Dome, J. A. Leidecker et al.

Shut Down

6-14-13 San Juan Oil Dev. Co.
12-29-13 Shiprock Oil Co.
25-30-12 Hall et al.
14-29-11 Hubble & Hall.
Rigs, 2; wells drilling, 12; total, 14.

COMPLETIONS

WYOMING

12-39-79 East ½, Ohio Oil 23..... 90
1-39-79 Dain 9, Ohio Oil 15..... 20
13-39-79 Tract O, Ohio Oil 4..... 30
26-40-79 NE, Wyoming Oil Fields 1-A.. 50
23-40-79 SE, Wyoming Oil Fields 36-A.. 50
30-40-78 SW, Wyoming Associated 22-A 60
2-39-79 NW, Salt Creek Cons. 22-X.... 40
31-40-79 SE, Salt Creek Cons. 18-A.... 315
13-40-79 SE, Mt. & Gulf 19-A..... 175
6-40-79 NE, Mt. & Gulf, 8-AX..... 90
22-40-79 NE, Midwest Oil, 26-A..... 85
22-40-79 NE, Midwest Oil 20-A..... 55
11-40-79 SW, Midwest Oil 1-AX..... 35
25-40-79 NW, Midwest Oil 24-AX..... 440
1-39-79 NE, Midwest Oil 31-A..... 100
27-40-79 SE, Midwest Oil 13-A..... 80
11-40-79 SE, Midwest Oil 4-A..... 200
23-40-79 NE, Midwest Oil 11-A..... 315
26-40-79 SE, Midwest and Wyoming Associated 3-A..... 140
25-40-79 SE, Midwest & Wyo. Associated 15-A 100
25-40-79 NE, Midwest & Wyo. Associated 18-AX..... 440
25-40-79 SE, Midwest & Wyo. Associated 7-A..... 250
36-40-79 NE, Midwest & Wyo. Associated 21-AX..... 250
36-40-79 SE, Midwest & Wyo. Associated 18-A..... 145
19-40-78 NW, Utah Oil & Ref. 3-A.... 80
14-39-79 NE, Kasoming Oil 3..... 50
30-40-78 SE, Prod. & Ref. 4..... 300
29-40-78 SW, Prod. & Ref. 3..... 200
18-39-78 NW, Prod. & Refg. E-1..... 45
30-40-78 SE Prod. & Refg. 5..... 75
22-40-79 NW, E. T. Williams 25-A.... 150
5-39-78 SE, Marine Oil Co. CR-3..... 210
20-39-78 SW, Marine Oil Co. T-6..... 150
29-40-78 SW, Continental Prod. S-4.... 120
19-40-78 NE, Continental Prod. D-3....1650
19-40-78 SE, Continental Prod. N-6.... 250
5-39-78 NW, Carter Oil Co. D-9..... 210
30-40-78 NE, Bonfils Oil Co. 3-A..... 215
2-39-79 SE, Sinclair Wyo. 13..... 230
32-40-78 SW, Mutual Oil Co. 33-A..... 700
10-39-79 NW, A. J. Hardendorf..... dry
10-40-79 SE, Empire State Oil 25-A.... dry
6-39-79 SW, Staley Synd. 16..... 150
23-40-79 NE, Midwest Oil 19-A..... 35
14-40-79 SW, Wyo. Associated 4-A.... 100
35-40-79 SE, Wyo. Associated 29-AX.. 265
22-40-79 NW, E. T. Williams 23-A..... 100
3-39-79 NW, Salt Creek Cons. 25-A.... 60
3-39-79 NE, Salt Creek Cons. 4-AX.... 25
2-39-79 NE, Salt Creek Cons. 19-AS.. 80
15-40-79 NE, Wyoming Associated 13-A 35
15-40-79 SE, Midwest Oil 35-A..... 75
30-40-78 SE, Wyoming Associated 5-A.. 50
30-40-78 NW, Wyo. Associated 18-AX.. 225
1-39-79 NW, Wyo. Associated 16-A.... 65
14-40-79 NW, Wyoming Associated 34-A 250
36-40-79 NW, Midwest & Wyoming Associated 36-A..... 150
36-40-79 NW, Midwest & Wyoming Associated 33-A..... 150
34440-79 NE, Midwest Oil 9-A..... 80
27-40-79 SE, Midwest Oil 24-A.....1120
12-40-79 SE, Mt. & Gulf 5-A..... 60
25-40-79 SW, Wyoming Oil Fields 10-A 50
31-40-78 NW, Salt Creek Cons. 24-A.... 50
36-40-79 SW, Midwest & Wyoming Associated 28-A.....1450
29-40-79 Kasoming 3..... 100
30-40-79 Kasoming 4..... 250
30-40-79 Kasoming 5..... 150
4-25-88 NE, Prod. & Ref. 2..... dry
33-26-88 NE, Prod. & Ref. 3..... dry
35-26-88 SW, Prod. & Ref. 2..... gas
1-25-88 NE, M. & S. Synd. dry
29-26-87 Prod. & Refg. ..... gas
11-26-90 Prod. & Ref. 5..... 300
18-46-63 Wyo. Hi-Test Oil Co. 20
17-46-63 Euclid Oil..... 30
30-46-63 Glenn Oil Co. 10
17-46-63 Osage Trust Co. 15
9-46-63 Elton Oil Co. 10
34-27-113 Wyotah Oil & Gas..... 30
14-17-104 Hay, Ohio Oil Co. 1..... dry

Wells completed..... 80
Production 13760
Dry 6
Gas 2
Gas production.....30,707,000

MONTANA

Completions

21-15-20 Bowers & O'Dea..... 75
12-15-28 California Co. ..... dry
4-34- 2 Moore, Queen City Oil Co. 1000

Classified Wants

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4-35- 2 Baker, Ohio Oil 9..... 25
4-32- 2 Norem, Ohio Oil 1..... dry
4-34- 2 Crumley & McKnight.....1000
2-35- 2 Whitman, Homestake Exp. 600
25-35- 2 McKee, California Co. 200
25-35- 2 B. C. Montana Oil Co. 100
22-35- 2 Heilmerich, Mutual Oil Co. ... 30
3-34- 2 Helgard, Homestake Explor. dry
4-34- 2 Newton & McMurray..... dry
4-34- 2 Shoshone Oil Co. 4.....1500
25-35- 3 Stewart, Campbell Synd. 50
9-35- 2 Bruin, Western Pet. Exp. .... dry
22-35- 2 Newman, California Co. 25
27-35- 2 Lorenzen, Waconia Oil..... dry
30-35- 1 Stannard, Securities Oil Co.... 50
4-34- 2 Whitan, Sunburst O. & R..... dry
20-35- 2 Nelson, Mutual Oil Co. ..... dry
5-34- 2 Shoshone Oil Co. 3..... dry
29-35- 1 T. C. Anderson, Sylvester Oil.. 45
4-34- 2 Corey, Johnson-Sunburst Co...1500
5-11-30 Ragged Point, Flynn Bros. .... dry
12- 3-20 Mid-Northern Oil Co. ..... dry
18- 3-25 Murray Bros. ..... dry

Wells completed..... 26
Production 6200
Dry 12

COLORADO

Completions

6- 9-68 Union of California..... gas
Florence Field, Mutual Oil Co. 50

Completions 2
Production 50
Gas 1
Gas production.....50,000,000

SOUTHERN O. & R. CO. BUYS CADDO PLANTS

SHREVEPORT, La., Aug. 9. — The Southern Oil & Refining Co. has purchased two small refineries in the Caddo Field which makes a total of five plants owned and operated by this company. The new plants are near Oil City, and were purchased from the Union Oil & Pipe Line Co. and the Associated Refining Co. One of the plants will specialize in gasoline and the other will be used in the manufacture of lubricating products.

The company is capitalized at $750,000 and its officers follow: President, W. G. Banks, of Shreveport; first vice president, in charge of refining operations, E. L. Decamp, of Shreveport; secretary, L. H. Gray, of El Dorado; treasurer, W. B. Hobby, former governor of Texas, with John H. Kirby, of the Kirby Lumber Co., and Robert L. Henry, of Houston, A. W. Baird, of Shreveport, and P. E. Murphy, of Munction City, Ark., completing the board of directors.

DeMares Concession in Colombia to Have Pipe Line to Coast

The International Petroleum Co.'s development of the De Mares concession in Colombia, where prospecting work and test drilling have been going on for several years, is reported progressing. Enough has been determined, it is said, to prove the field and to warrant the construction of a pipe line to a point on the northeast coast of Colombia between Bahia Honda and Bahia de Cispata.

The concession to construct a pipe line was granted by the Government of Colombia to the Andean National Corp., a Canadian company presumably controlled by the International Petroleum Co. interests. The pipe for this line, totalling 40,000 tons, already has been contracted for. This line will be approximately 360 miles long, and for the first time will make Colombian oil available to world markets.

International Petroleum's De Mares concession covers 2,000,000 acres of land. In every instance where a well has been drilled on a mapped-out structure, it is said, oil has been struck. It is believed by some oil men the producing area will exceed the producing fields in Mexico.

The new line will carry 20,000 to 25,000 bbls. of oil a day. In addition International has about 25,000 bbls. of oil a day production in Peru. This Peruvian oil is being marketed, so that International shortly will be marketing between 45,000 and 50,000 bbls. of oil a day.

International Petroleum, which is a Canadian company, started its operations in Peru in 1914, acquiring several English-owned oil producing properties. Within the last few months it has added 700,000 acres more to its holdings of Peruvian oil land. International Petroleum is 60 per cent owned by Imperial Oil, Ltd., which in turn is 80 per cent owned by Standard Oil Co., of New Jersey. It is Standard Oil's biggest investment in South America. Over a period of 20 years, it is expected this company can increase its production steadily.

Prior to the acquisition of 700,000 acres of Peruvian land International Petroleum owned 400,000 acres there. Peruvian oil is of high grade. Standard Oil of New Jersey recently contracted to take 10,000 bbls. of oil a day from International Petroleum.

Colombian oil is also comparatively high grade and its lubricating qualities have been proved unusually good.

MR. TEAGLE'S LONDON VISIT

"I find expectancy of improved business as a result of a probable settlement at the London conference," said Walter C. Teagle, president of the Standard Oil Co. of New Jersey, during his visit to London. Mr. Teagle denied that his conference with the European heads of the Standard Oil has any possible connection with reported concessions in northern Persia. "My visit was necessitated by the death of Vice President F. D. Asche and is merely routine," he said. Recent Rumanian mining legislation Mr. Teagle considers more oppressive than previous government price fixing, because the new law provides for a Rumanian purchase of private properties with virtually worthless currency.

ROYAL DUTCH PERUVIAN OPTION

The Royal Dutch-Shell group has acquired an option on 800,000 acres of Peruvian petroleum lands in the Tumbe, Payta, and Lambayeque regions, including a large area previously held by the British Controlled Oil Fields, Ltd., according to reports from London. A geological expedition is arriving in Lima to explore lands involved. The Shell Co. is applying for expoiltation rights for 1,000,000 additional acres which have recently been put under reserve by the Peruvian Government.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS PIPE LINE REPORT FOR JUNE

Runs

	Month	Dy. Av.
*Prairie P. L. Co.	3,720,000	124,000
Gulf P. L. Co.	1,014,230	33,808
Texas P. L. Co.	384,250	12,808
Magnolia Pet. Co.	1,017,848	33,928
Empire P. L. Co.	802,604	26,753
Cosden P. L. Co.	956,374	31,896
*Sinclair P. L. Co.	1,245,000	41,500
*Other lines	7,452,000	248,400
Total June	16,592,806	553,093
Total May	16,495,482	532,112
Difference	97,324	20,981

Shipments

	Month	Dy. Av.
†Prairie P. L. Co.	3,547,891	118,263
Gulf P. L. Co.	1,062,192	35,406
Texas P. L. Co.	347,345	11,578
Magnolia Pet. Co.	991,020	33,034
Empire P. L. Co.	672,411	22,414
Cosden P. L. Co.	1,112,297	37,076
†Sinclair P. L. Co.	1,642,694	54,756
Other lines	7,110,000	237,000
Total June	16,485,850	549,527
Total May	17,093,913	551,413
Difference	608,063	1,886

Stocks

*Prairie Oil & Gas Co.	23,000,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line Co. and Gypsy Oil Co.	9,353,995
The Texas Co.	7,114,615
Magnolia Petroleum Co.	8,404,361
Empire Pipe Line Co.	3,227,429
Cosden Pipe Line Co.	2,764,309
*Sinclair Crude Oil Purchasing Co.	29,000,000
Carter Oil Co.	18,049,483
*Other lines	8,800,000
Total June	111,714,192
Total May	110,526,322
Difference	1,187,870

*Estimated. †Includes shipments of Texas crude.

Note: Stocks do not include approximately 8,250,000 bbls. of crude oil held in storage on private tank farms and leases.

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for May and June:

	May, '24.	June, '24.
Nat. Transit	199,626.14	185,964.53
S. W. Pa. P. L.	85,544.16	84,784.13
Eureka P. L.	372,494.35	360,470.64
Buckeye P. L. (Macksburg)	258,024.34	245,849.66
Buckeye P. L. (Cleveland)	15,210.59	15,114.06
Buckeye P. L. (Lima, etc.)	145,504.50	149,517.93
Indiana P. L.	12,812.12	13,211.64
Cumberland P. L.	372,609.80	352,152.78
N. Y. Transit	19,947.74	19,920.01
Tidewater P. L.	152,075.52	146,705.68
Pure Oil P. L.	188,558.69	180,842.04
Emery P. L.	35,511.41	35,188.79
Indian Refining	66,447.27	60,342.51
Paragon Dev.	41,802.11	34,461.48
Pittsburgh P. L.	8,903.97	7,792.56
Swiss P. L.		
Riggs Refining	5,124.29	4,582.41
Total	1,980,197.00	1,896,900.90
Daily average	63,941.84	63,230.03

—Note: Indian Refining Co. also reported other receipts of 309,849.78 bbls. Paragon Refining Co. had other receipts of 142,866.43 bbls. Paragon Development Co. had other receipts of 4,510.65 bbls. Pittsburgh Pipe Line had other receipts of 510.53 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for May and June:

	May, '24.	June, '24.
National Transit	373,131.02	349,447.12
S. W. Pa. P. L.	253,585.74	236,010.50
Eureka P. L.	112,059.21	123,095.03
Buckeye P. L. (Macksburg)	100,473.73	325,987.67
Buckeye P. L. (Cleveland)	1,214.64	1,451.07
Buckeye P. L. (Lima, etc.)	680,684.61	601,546.36
Indiana P. L.	931,269.90	830,895.76
Cumberland P. L.	151,162.89	133,254.79
Southern P. L.		7,735.85
Crescent P. L.		
N. Y. Transit	507,491.63	668,690.48
Northern P. L.	80,309.14	120,462.56
Tidewater P. L.	130,310.85	121,407.61
Pure Oil P. L.	204,887.66	167,288.07
Emery P. L.	38,385.97	43,773.94
Paragon Ref.	181,821.26	164,584.15
Indian Ref.	381,740.52	348,715.10
Paragon Dev.	44,760.63	45,650.74
Pittsburgh P. L.	11,634.19	10,292.56
Total	4,184,923.59	4,290,290.36
Daily average	134,997.50	143,009.68

Note: Indian Refining Co. also reported other deliveries of 91.80 bbls.

Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of May and June were as follows:

	May, '24.	June, '24.
National Transit.	969,330.61	927,391.38
S. W. Pa. P. L.	740,981.21	756,214.63
Eureka P. L.	1,910,892.33	1,857,807.14
Buckeye P. L. (Macksburg)	576,679.85	454,683.96
Buckeye P. L. (Cleveland)	16,959.02	33,775.28
Buckeye P. L. (Lima, etc.)	3,184,697.93	3,506,557.58
Indiana P. L.	628,594.63	617,911.92
Cumberland P. L.	568,123.90	583,831.12
Southern P. L.	512,524.99	596,507.15
Crescent P. L.	80,724.80	77,167.35
N. Y. Transit	704,366.99	725,304.69
Northern P. L.	763,364.39	719,712.09
Tidewater P. L.		
Pure Oil P. L.	359,255.82	373,121.94
Emery P. L.	21,790.55	13,932.36
Paragon Ref.	175,717.01	166,689.08
Indian Ref.	101,113.46	115,244.29
Paragon Dev.	11,370.55	8,834.23
Pittsburgh P. L.	7,521.89	5,683.28
Swiss P. L.		
Riggs Ref.	1,299.14	834.95
Total	11,335,309.07	11,544,204.42
Increase	412,566.99	208,895.35

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of May and June, showing the gross stocks of the above fields:

	May, '24.	June, '24.
Pennsylvania	3,923,793.00	3,668,678.80
Lima	1,113,472.67	1,150,446.32
Kentucky	1,441,241.81	1,518,177.30
Mid-Continent	4,779,382.96	5,135,399.33
Illinois	78,118.62	71,502.67
Total	11,335,309.07	11,544,204.42

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1921	1922	1923	1924
January	64,460	67,702	75,790	62,638
February	70,054	75,096	71,093	68,022
March	68,555	78,531	76,592	68,721
April	65,036	75,462	76,614	71,068
May	66,466	77,592	77,365	63,942
June	62,438	76,193	77,593	63,230
July	69,486	76,435	71,879	
August	64,888	79,387	76,910	
September	60,110	78,512	72,368	
October	57,688	77,209	76,266	
November	58,470	75,313	70,762	
December	61,000	73,351	69,271	

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania Lima and other fields for past four years:

	1921	1922	1923	1924
January	115,550	119,792	171,067	145,518
February	96,736	111,362	164,219	148,732
March	84,168	127,753	185,487	147,098
April	101,015	127,068	170,751	147,611
May	100,263	127,840	177,392	134,937
June	105,037	137,638	173,598	143,010
July	97,096	137,872	168,330	
August	101,652	153,275	142,766	
September	117,440	158,761	137,266	
October	105,728	165,345	134,597	
November	121,803	165,677	131,426	
December	104,023	172,861	139,909	

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1922	1923	1924
January	16,297,858	14,040,567	12,907,[illegible]
February	17,009,293	14,028,437	13,[illegible]
March	16,877,937	13,873,146	10,[illegible]
April	16,777,842	13,737,575	10,[illegible]
May	16,948,962	13,815,622	11,[illegible]
June	16,810,169	14,541,253	11,[illegible]
July	16,669,286	14,646,584	
August	16,235,220	14,770,539	
September	16,228,545	14,803,444	
October	15,757,746	14,504,111	
November	15,171,972	14,157,726	
December	14,323,765	13,444,361	

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1923—	Receipts.	Shipments.	Stocks.
June	2,927.71	4,743.78	21,[illegible]
July	2,996.64	1,471.57	23,[illegible]
August	3,199.07	3,769.34	22,[illegible]
September	2,829.79	5,822.38	19,[illegible]
October	2,694.23	5,251.81	17,[illegible]
November	2,980.66	4,150.98	16,[illegible]
December	2,892.07	3,499.27	15,[illegible]
1924—			
January	2,942.19	3,641.71	3,[illegible]
February	2,151.78	1,926.55	10,[illegible]
March	3,398.78	1,716.38	11,[illegible]
April	3,311.84	2,066.78	12,[illegible]
May	3,036.50	5,338.31	10,[illegible]
June	3,188.31	407.01	13,[illegible]

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, July 1	2,215,955.61
Runs from wells	695,702.3
Other receipts	139,295.71
Regular deliveries	474,431.16
Other deliveries	336,596.94

The amount of Illinois oil run by the Tide Water Pipe Line Co. in June was 29,358.53 bbls., and deliveries were 53,970.13 bbls. Adding these figures to those of the Illinois Pipe Line Co., makes the runs and deliveries from the Illinois field as follows:

1923—	Runs.	Deliveries.
June	582,611.82	509,137.77
July	594,653.42	499,289.27
August	594,747.94	507,153.33
September	542,561.59	395,925.40
October	576,867.09	347,812.63
November	546,859.43	286,692.89
December	534,185.04	282,542.63
1924—		
January	493,337.25	280,792.89
February	525,490.70	353,613.74
March	611,289.36	369,542.51
April	514,356.43	339,546.10
May	751,080.44	510,414.43
June	725,060.87	523,401.33

The Tide Water Pipe Co. Ltd., also delivered in June, 219,002.93 bbls. of Oklahoma oil. The total deliveries of all grades by the Tide Water were 394,350.87 bbls.

AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

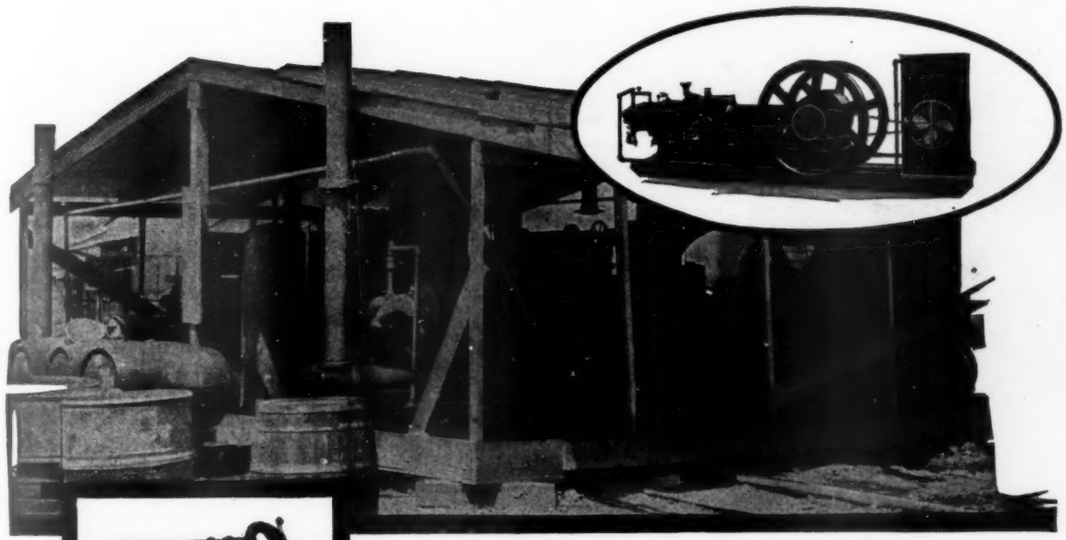
Av. bbls. per wk.—	ATLANTIC PORTS						GULF COAST PORTS					Total
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Pt. Arthur Sabine Pass	Tampa	Total	All Ports
March	42,455	17,388	623,455	209,321	77,455	970,067	.....	.....	.....	.....	.....	970,067
April	29,669	17,969	614,369	88,200	52,269	812,476	.....	.....	.....	.....	.....	812,476
May	42,903	33,194	615,709	92,706	61,642	846,154	.....	70,127	.....	.....	70,127	916,281
June	121,800	34,300	581,000	103,369	51,331	891,800	.....	.....	.....	.....	.....	891,800

AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Av. bbls. per wk.—	ATLANTIC PORTS						GULF COAST PORTS					Total
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Pt. Arthur Sabine Pass	Tampa	Total	All Ports
January	112,800	118,200	552,000	97,800	215,800	603,200	358,800	248,000	137,800	20,800	772,200	1,559,800
February	134,750	175,750	195,250	102,750	299,250	907,750	372,500	296,000	190,250	36,500	895,250	1,803,000
March	148,358	141,806	283,458	124,642	292,642	990,906	463,806	365,358	223,552	55,545	1,108,261	2,099,167
April	152,369	154,931	913,900	94,962	248,969	971,121	382,900	348,131	119,000	15,869	865,900	1,837,021
May	166,485	134,602	285,903	59,612	200,097	929,699	315,679	295,358	199,591	38,164	848,792	1,778,491
June	120,169	108,731	434,931	68,131	239,400	971,362	412,741	251,762	159,831	33,831	858,165	1,829,527

GROSS PRODUCTION AND DAILY AVERAGE IN THE UNITED STATES FOR 12 MONTHS

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Wyoming-Montana	Other Fields	Total
1923—										
July:	Month	25,262,082	15,260,184	11,258,042	2,448,566	3,713,738	1,882,481	4,245,547	3,334,110	67,404,750
	Daily average	814,906	492,264	382,518	78,986	119,798	60,725	136,953	107,552	2,174,347
August:	Month	26,440,005	14,049,076	13,157,429	2,316,320	3,292,580	1,952,349	4,290,406	3,479,077	67,977,242
	Daily average	852,903	453,196	392,172	74,720	106,212	62,979	138,400	115,969	2,192,814
September:	Month	25,762,487	12,812,220	12,879,682	2,234,730	3,164,900	1,787,430	4,561,550	3,269,551	66,472,550
	Daily average	858,750	427,074	429,323	74,491	105,497	59,581	152,052	105,468	2,215,752
October:	Month	24,576,400	12,961,782	15 933,383	2,336,346	3,120,274	1,837,990	3,540,880	3,475,913	67,782,968
	Daily average	792,787	418,122	513,980	75,366	100,654	59,290	114,222	112,126	2,122,031
November:	Month	22,397,848	12,334,620	15,556,507	2,268,840	2,973,000	1,816,860	4,792,466	3,138,464	65,278,605
	Daily average	746,595	411,154	518,550	75,628	99,100	60,562	159,782	104,615	2,175,953
December:	Month	21,899,247	12,232,259	10,065,856	2,345,150	4,017,850	1,919,574	3,304,326	3,147,812	58,932,074
	Daily average	706,427	394,589	324,705	75,650	129,608	61,922	106,591	101,542	1,901,034
1924—										
January:	Month	20,912,500	12,292,833	10,336,642	2,233,878	3,686,680	1,601,175	4,636,230	2,950,500	58,640,438
	Daily average	674,597	396,543	333,449	71,738	118,925	51,651	149,556	95,177	1,891,627
February:	Month	19,341,226	12,236,637	10,495,486	2,112,853	3,302,750	1,497,450	4,168,450	2,997,700	56,152,552
	Daily average	666,939	421,953	361,913	72,857	113,888	51,629	143,740	103,369	1,936,294
March:	Month	19,913,262	13,336,851	12,077,617	2,206,425	3,882,695	1,701,593	3,993,890	3,258,000	60,270,333
	Daily average	642,363	430,221	389,601	71,175	125,248	54,890	128,835	105,097	1,947,431
April:	Month	19,299,849	13,452,240	11,725,830	2,265,090	4,068,225	1,495,582	3,901,755	3,231,000	59,439,571
	Daily average	643,328	448,408	390,861	75,503	135,608	49,853	130,058	107,700	1,981,319
May:	Month	19,833,576	14,248,057	11,923,316	2,486,696	4,659,117	1,596,701	4,033,564	3,255,000	62,136,027
	Daily average	639,793	459,615	384,623	80,216	150,291	51,507	130,109	108,226	2,004,662
June:	Month	18,807,999	14,457,390	11,515,020	2,473,320	4,756,443	1,811,880	3,798,634	3,211,500	60,832,186
	Daily average	626,933	481,913	383,834	82,444	158,548	60,419	126,621	107,050	2,027,739
Total 12 months		264,446,481	159,674,149	145,924,811	27,718,214	44,638,252	20,901,065	49,267,698	38,848,627	751,419,297
Daily average		722,531	436,268	398,702	75,733	121,962	57,107	134,611	106,144	2,053,468



Boyer Riveting Hammers

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CHICAGO PNEUMATIC

Depend upon *that Name*

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the postoffice at Tulsa, Okla., under the Act of March 3, 1879.

Avoid Costly Painting Mistakes

How often does the paint manufacturer know the conditions that paint must meet on your property? Yet, how else can he--or you--be sure that the paint supplied will stand up?

There are many abnormal conditions in the oil industry that paint must meet. This does not mean that a variety of "special brews" is necessary.

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The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the postoffice at Tulsa, Okla., under the Act of March 3, 1879.

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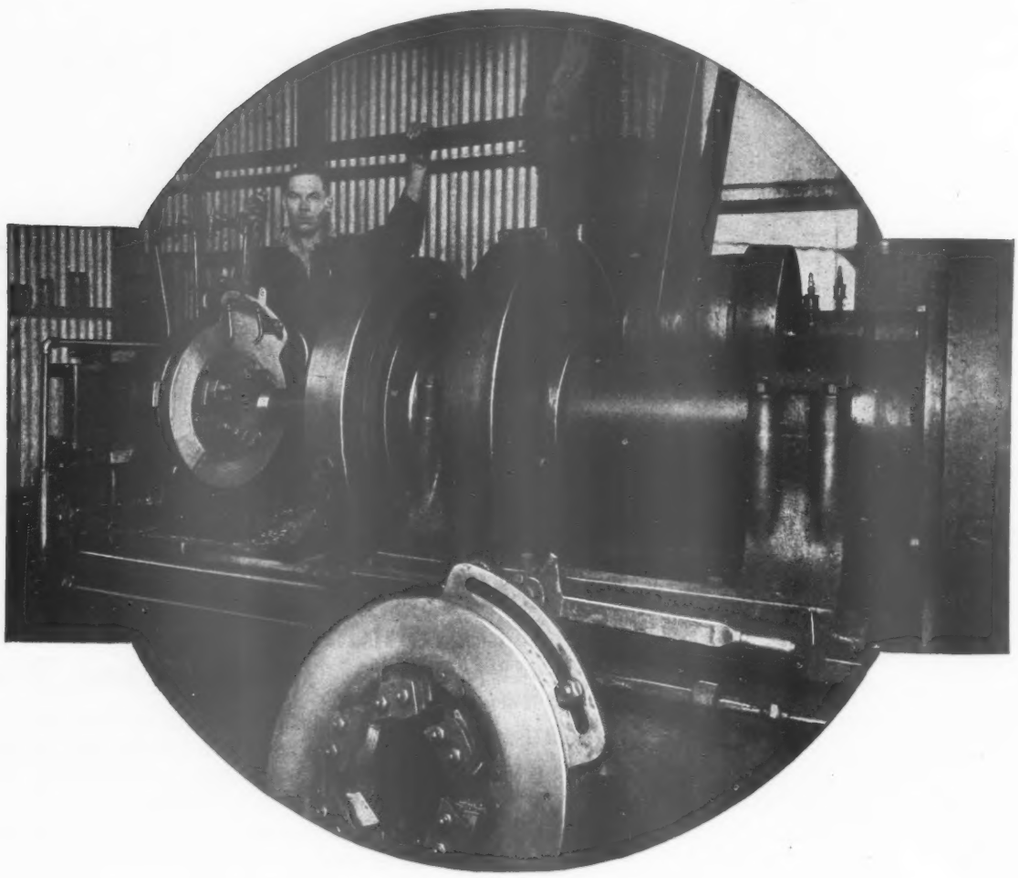

Landis in California

The Landis Pipe Threading Machine shown has been in constant service in the shops of the Union Oil Company of California "Stearns Lease," Brea, California, two shifts per day, for four years. Since its installation this company alone has purchased five more Landis Machines—a recommendation that commands attention.

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Long Round Things in Boxes

Many field men will read that headline, and grin, and turn on.

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Then one day they talked with a Frick-Reid man, or they heard another field man tell how he solved the problem. And they went around to the Frick-Reid Store in their field and brought one of those long round things in a box.

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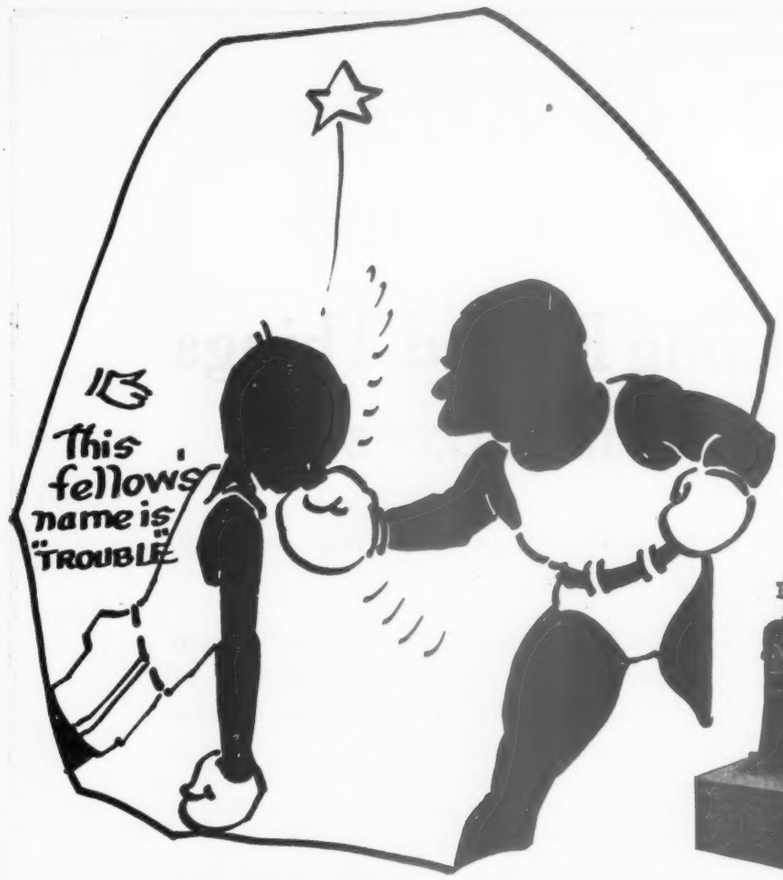
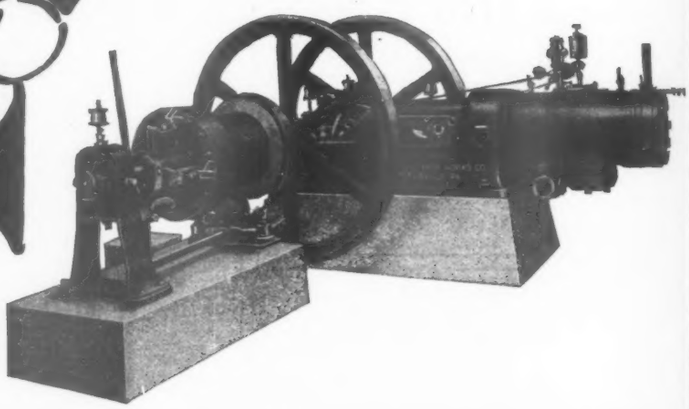


a two-fisted he-man mechanism



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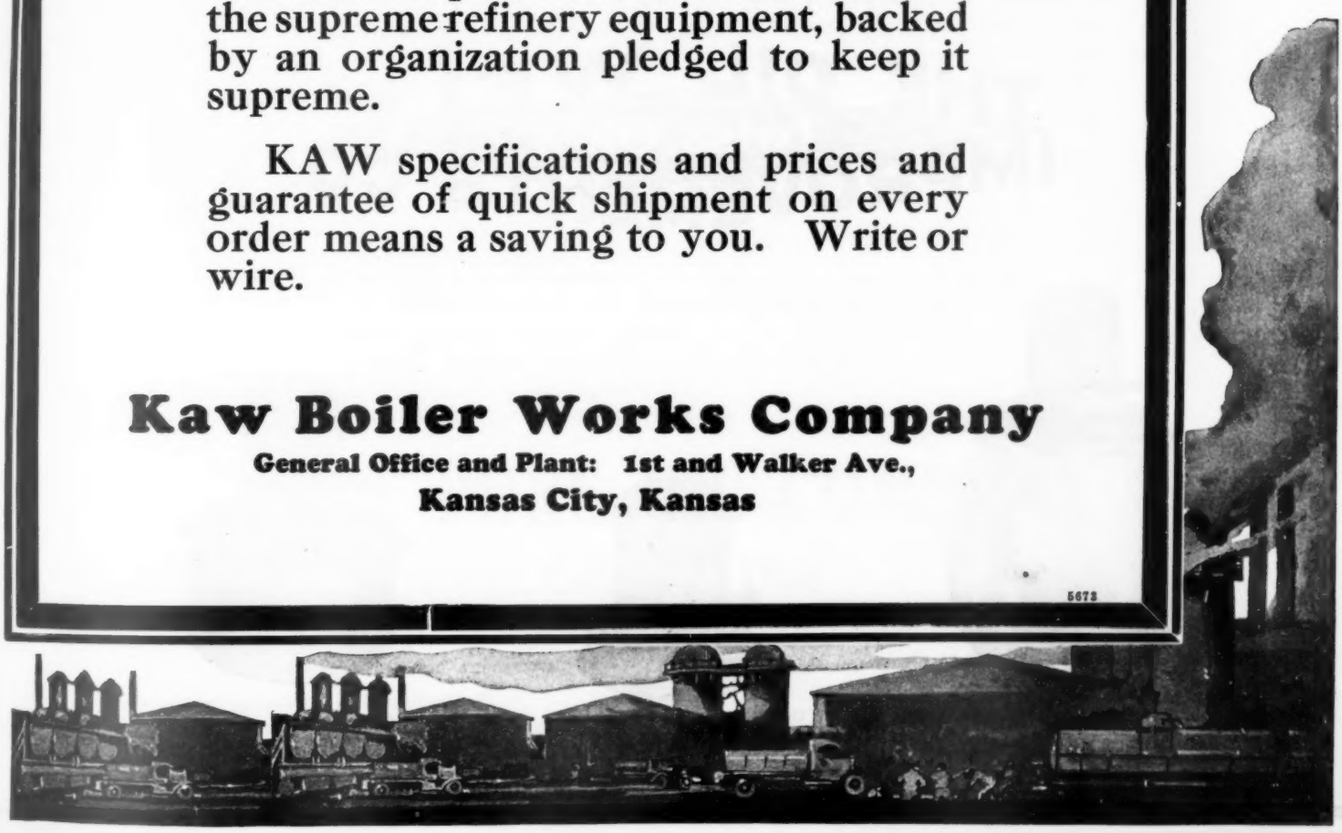

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These devices have been in use for 10 years as agents of Conservation. Because of their unfailing service they are now specified as Standard Equipment.

The Control Head is made in sizes from 4¼ to 12½ inches. The Roller Oil Saver fits into all sizes of the Straight Type Control Head.

The Common and Tee Casing Head is made in all sizes from 4¼ to 12½ inches.

The Roller Oil Saver can be used in all sizes.

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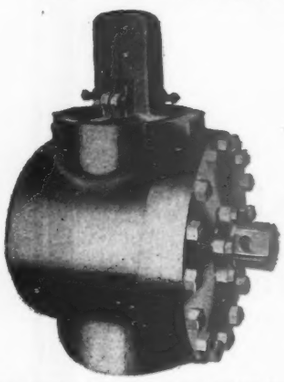
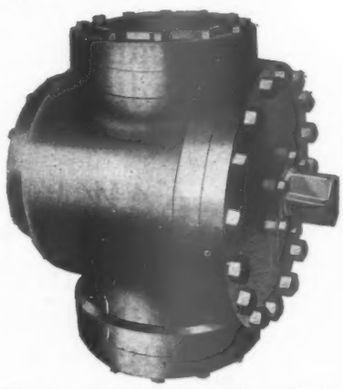


The Roller Oil Saver in the Control Casing Head (Straight Type) (Patented.)



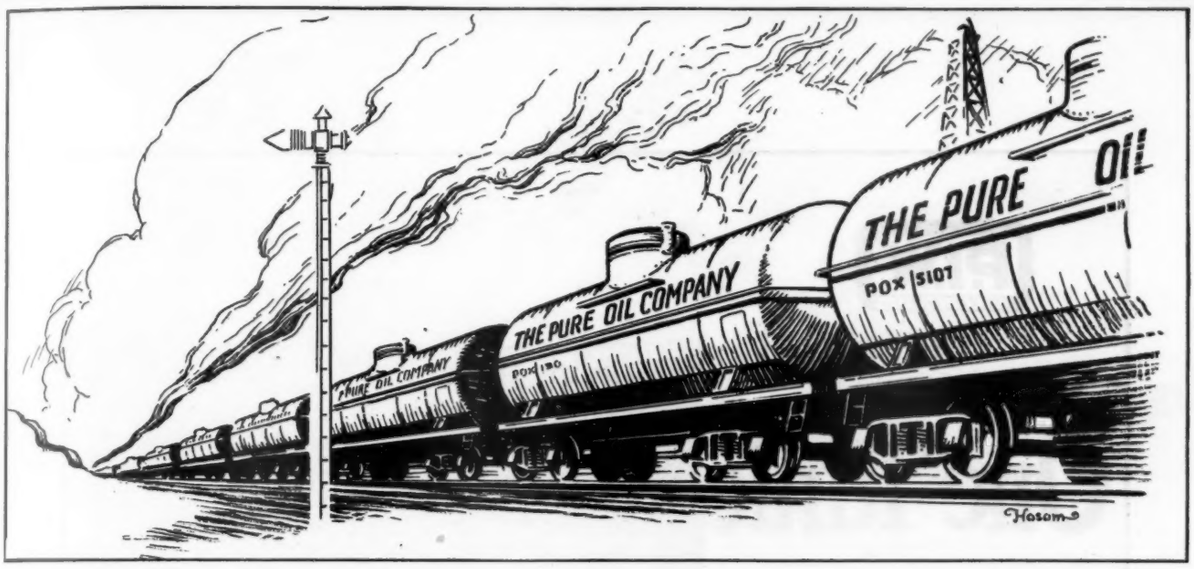
The Flange Type of Control Casing Head. (Patented.)

THE OIL WELL IMPROVEMENTS CO.
Tulsa, Okla.

The Roller Oil Saver in the Tee Casing Head. (Berry Type.) (Patented.)

The Roller Oil Saver. (Patented.)

The Roller Oil Saver in the Common Casing Head. (Berry Type.) (Patented.)



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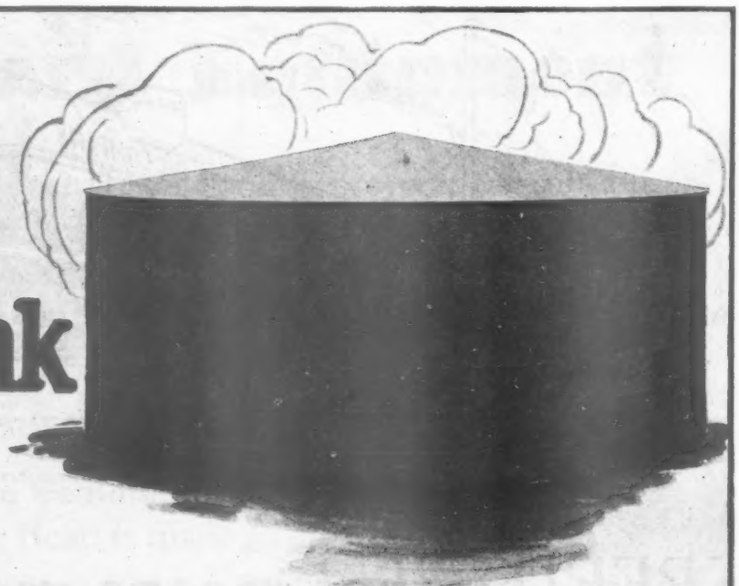
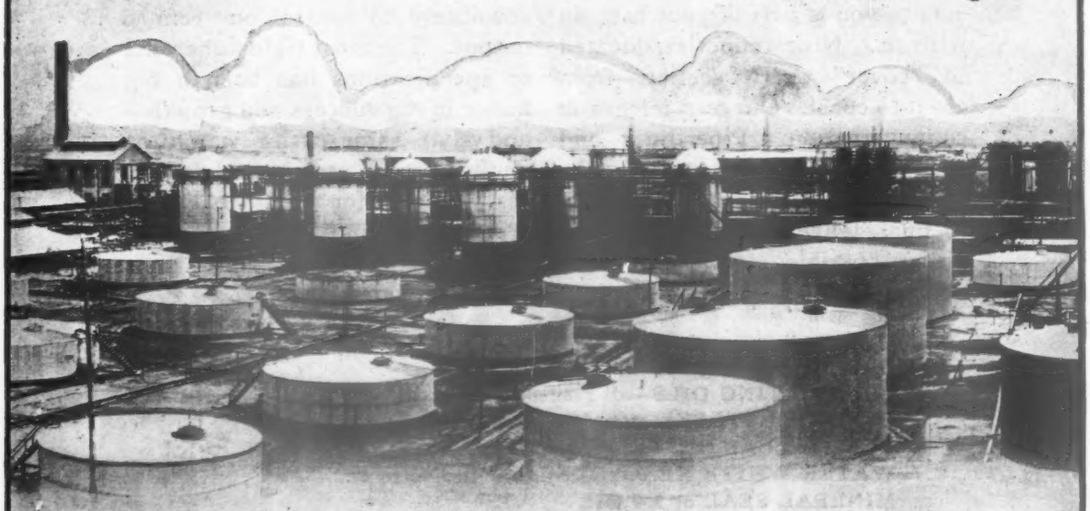
P.I.W.
STEEL PLATE CONSTRUCTION



One Tank Or A Complete Refinery

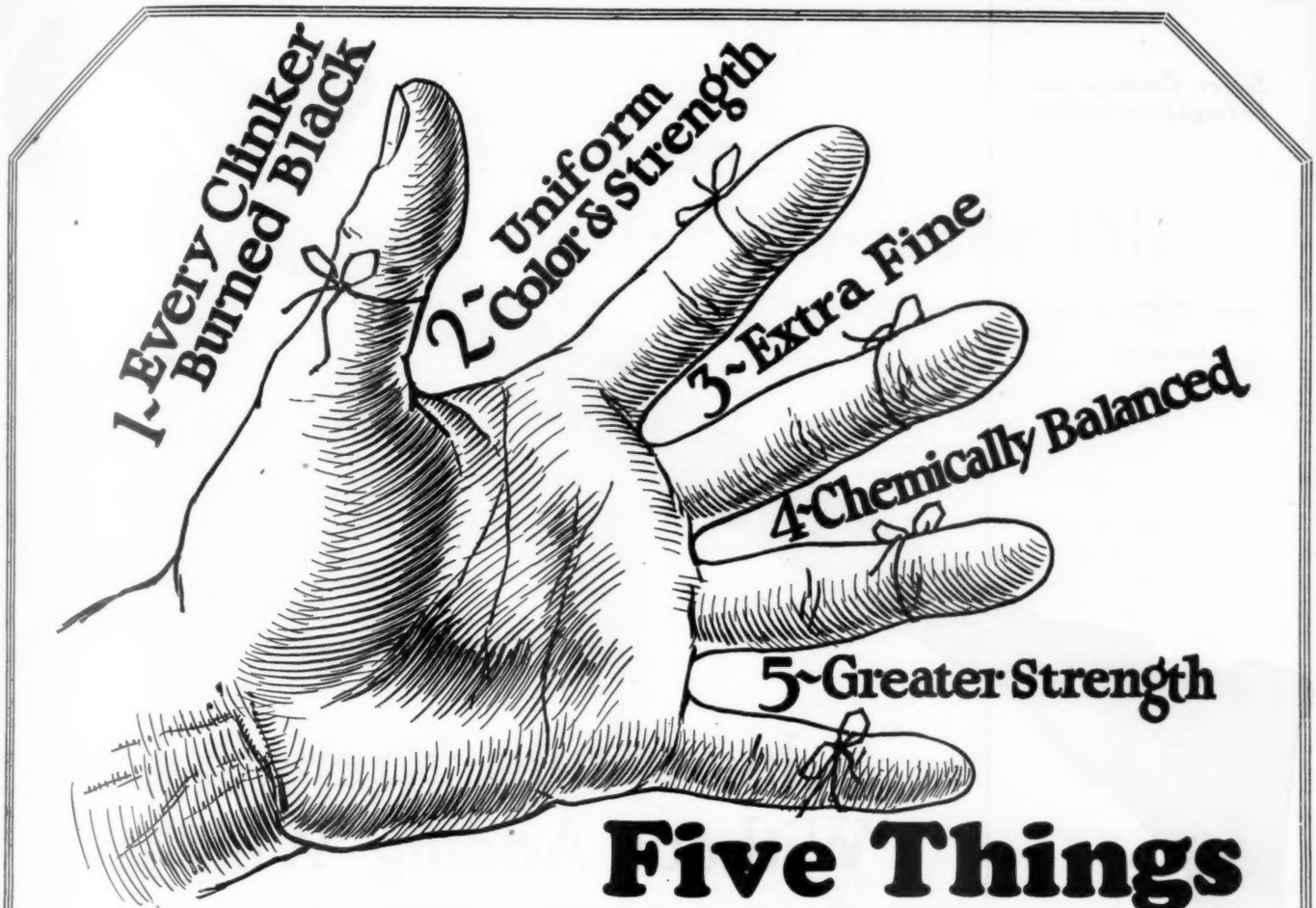


"P.I.W. Service is World Wide"

The Petroleum Iron Works Company
Sharon, Pa.

BRANCH PLANT, KANSAS CITY, KANSAS

NEW YORK ST. LOUIS HOUSTON TULSA SAN FRANCISCO



Five Things

WORTH REMEMBERING—

1—Every clinker is burned black. (We spend 8 to 10c more per barrel for burning.)

2—Most uniform color and strength. (We have six slurry correcting tanks from which samples are drawn at regular intervals for analysis.)

3—Fineness is carried in excess of specifications. (This gives a tremendous margin of safety and strength.)

4—In manufacturing VICTOR, samples are taken every nine seconds. (This is done to guarantee an even chemical balance.)

5—VICTOR is actually 50% stronger than specifications. (Our price however is no higher than other cements.)

Why buy other brands when VICTOR costs no more?

Great Western Portland Cement Company

Home Office: Kansas City, Mo. Plant: Mildred, Kansas

Victor Oil Well Cement

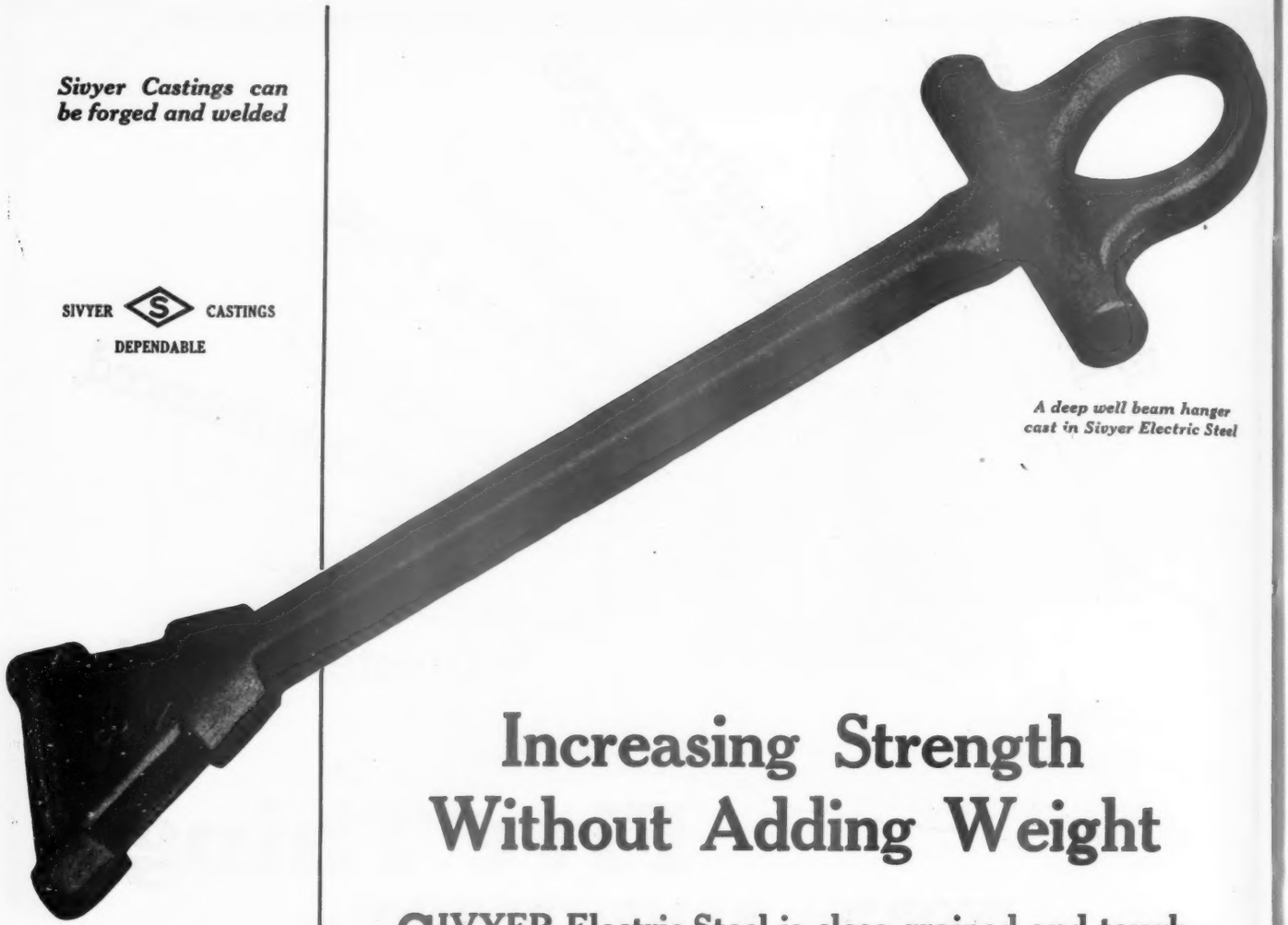
THE GREAT WESTERN PORTLAND CEMENT COMPANY — VICTOR — PORTLAND CEMENT

TRADE MARK REG. U. S. PAT. OFF.

"Better Than Specifications"

Sivyer Castings can be forged and welded

SIVYER CASTINGS
DEPENDABLE



A deep well beam hanger cast in Sivyer Electric Steel

Increasing Strength Without Adding Weight

SIVYER Electric Steel is close grained and tough. This permits the casting of parts, similar to the one pictured, without adding bulk or weight to provide the required exceptional strength. This particular part, for example, is called upon to bear heavy strains as a deep well beam hanger. Yet, it is highly desirable that it be light in weight. Forging of the part is impractical because of its design. By casting the hanger in Sivyer Electric Steel extremely satisfactory field results have been obtained. The manufacturer using the part feels safe in guaranteeing it to be practically unbreakable. On the other hand, the weight of the hanger with its assembly is but 103 pounds—light enough to be easily handled.

Send Blue Prints

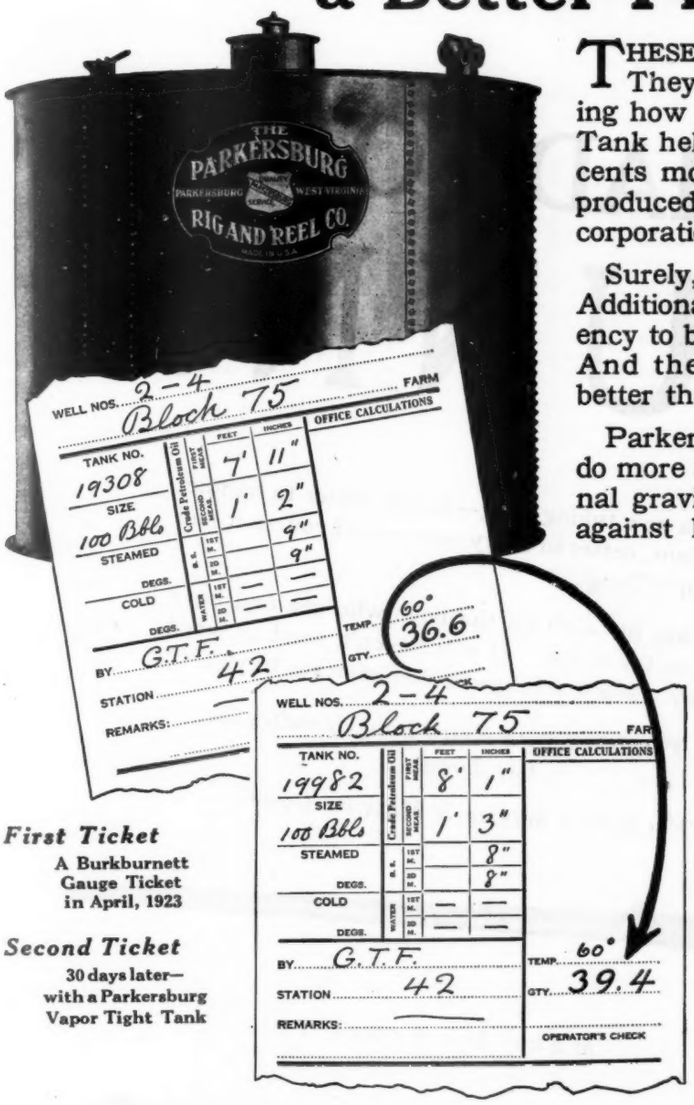
In this case, as in so many others, the toughness of Sivyer Electric Steel has enabled a manufacturer to provide parts of great strength without sacrificing light weight. The inherent strength of Sivyer Electric Steel plus the excellent annealing practice of the Sivyer foundry—where the castings are grouped for annealing according to the heat treatment that they require—gives Sivyer Castings a close-grained toughness that minimizes breakage and wear.

If you are having trouble with forged parts that fail to stand up as well as you expect them to, or if you are using parts to which extra weight has had to be added to provide the desired strength, Sivyer Electric Steel Castings may solve your problem. If you will send us blue prints of the part with a statement of your difficulties we will be glad to recommend possible solutions without obligation on your part

SIVYER STEEL

SIVYER STEEL CASTING COMPANY, MILWAUKEE

A Better Tank *and* a Better Price for Oil



First Ticket
A Burkburnett Gauge Ticket in April, 1923

Second Ticket
30 days later—with a Parkersburg Vapor Tight Tank

THESE gauge tickets tell the story. They are a definite record showing how a Parkersburg Vapor Tight Tank held up gravity and brought 40 cents more per barrel for the crude produced by this nationally known corporation. (name on request)

Surely, here is a worthwhile saving. Additional profits because of the tendency to buy crude on a *gravity* basis. And the higher the gravity—the better the *price*.

Parkersburg Vapor Tight Tanks do more than hold crude to its original gravity—they hold every barrel against losses through evaporation.

PARKERSBURG Service includes complete installations of Tanks and Equipment for retaining gas with crude at pressures consistent with customers' requirements, or for separation of gas for manufacture of gasoline or use as fuel.

Parkersburg Vapor Tight Equipment can be applied to any steel tank of any capacity although best results are obtained when this equipment is used with Parkersburg Bolted Steel Tanks.

Ask our representatives how Parkersburg Vapor Tight Equipment does this. Or write for information.

The PARKERSBURG RIG & REEL COMPANY

Main Office and Works, Parkersburg, W. Va. ***New York Office,*** 30 Church St.

California Representatives, BUCK & STODDARD
485 California St., San Francisco, Calif.; Box 720, Arcade Station, Los Angeles, Calif.

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*Houston
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WEST VIRGINIA
Parkersburg
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OKLAHOMA
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Drumright
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Hominy
Okmulgee
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ARKANSAS
*El Dorado
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FOR CLASSY SERVICE
TONGS
TUBING CATCHERS
ELEVATORS
FOR ALL PURPOSES
it must be DUNN

DUNN TOOLAGRAM

ORIGINAL
PRACTICAL
ECONOMICAL

IT HAD TO BE DUNN!

Here's a new tubing tong—faster, easier to handle, more efficient, better in every way—so of course it had to be a Dunn Tong.

It's a big hit with all the boys who see and have a chance to try it out. If you haven't, send us word right away. We'll arrange to demonstrate to you.

Also Furnished with Extra Long Handles for Lay Tongs

"For Classy Service It Must Be Dunn"

Make Us Prove It!

DUNN MFG. CO.

Oxnard, California

OIL WELL PATENTED DUNN TOOLS
TRADE MARK REG.

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